



NEWS: EUROPE

Rocky times at the cradle of freedom

Lech Walesa went back to his old job only to find a Polish shipyard at odds with a government of former communists



Walesa at his workbench yesterday. He is on half the pay of his bodyguards - until his president's pension comes through

Mr Lech Walesa, Poland's former president, returned in style yesterday to Gdansk to resume his old job as an electrician... His first duty was to revamp the yard, beaming, he too said media attention on its most famous employee would raise the yard's profile and help it win the support it needs to survive.

"All we're interested in is working," said one worker. "We'll wait and see what Walesa can achieve for us," muttered a fitter who had worked at the yard for 33 years. Yesterday the government, which owns 60 per cent of the yard, advertised it was ready to see more than 10 per cent to strategic investors...

The new management was expecting profits last year but an unexpectedly strong zloty contributed to an 88m zloty net loss. Delays which plagued the yard in the past continue to do so, increasing the cost of the five ships currently under construction and the 18 on order. A new business strategy recently prepared by consultants for the yard which forecast significant profits at the turn of the century if support was forthcoming was dismissed as wildly unrealistic by Bank Handlowy, the yard's largest creditor...

EUROPEAN NEWS DIGEST

Tirana backed on war games zone

The United States will support Albania's plans for a military training area open to Nato members and Partnership for Peace countries, Mr William Perry, the US defence secretary, said after bilateral talks yesterday. Mr Perry, on a three-day visit to Albania to attend a South Balkans defence ministers' conference, said the US had no plans to establish its own base in the country...

West European truck sales soar

Sales of commercial vehicles and trucks weighing more than 5.1 tonnes jumped by 19.5 per cent to 255,397 units last year, according to provisional figures from the European Automobile Manufacturers' Association (ACEA). ACEA, which produces the monthly European car sales statistics and has just turned its hand to commercial vehicles, warned the figures were subject to alteration...

German pay-TV for Uefa game

The German television channel, Premiere, with only 1.15m customers, has caused controversy after its decision yesterday to introduce subscription TV for the return leg of the Barcelona against Bayern Munich Uefa cup football semi-final on April 16. The first leg of the semi-final was at Bayern's Olympiastadion. Up to 10m viewers are expected to watch the match - that was the number of viewers for Saturday's Bayern Munich and Borussia Dortmund game...

Bankruptcies slow in France

The number of corporate bankruptcies in France rose 1 per cent in October 1995 to 4,487, from 4,427 a year earlier, the national statistics bureau, Insee, reported yesterday. But for the 12-month period through October bankruptcies fell 6.6 per cent from the comparable 1994 period, to 53,586. October bankruptcies also fell 1.5 per cent from 4,556 in September. Compared with a year earlier, the number of bankruptcies in October declined in most business sectors except for construction and non-food wholesaling...

Swedish deficit set to increase

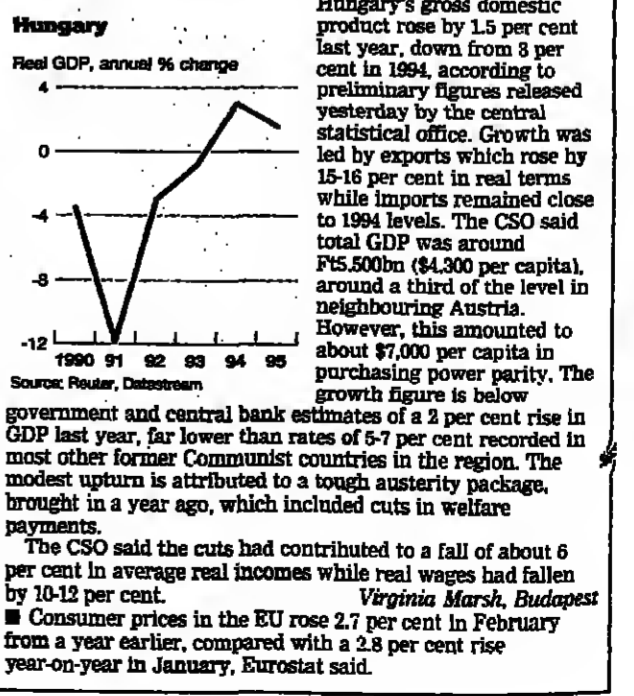
Sweden's public sector deficit for the 18 months to December 1996 will total SKr198.3bn (\$30bn), the national audit bureau (RRV) said yesterday, some SKr17bn kronor higher than the last estimate, set at SKr181bn by the bureau in December. The increase is due to interest on the state debt, RRV said. The interest is calculated at SKr120.4bn based on March 20 rates, an increase of SKr15.4bn from December. When the Swedish government presented its revised budget to parliament last April, it predicted a deficit of SKr213.6bn. The current fiscal period, running from July 1 1995 to December 30 1996, is transitional as the Swedish public sector goes over to calendar year calculation.

Dutch to limit cannabis sales

The main parties in the Dutch parliament agreed yesterday to cut the amount of cannabis sold to customers in the nation's coffee shops from 30g to 5g. The parliamentary decision is the first step towards new measures further limiting the country's sales of soft drugs that have angered its European neighbours. It has not been decided when the new limit will go into effect. The lower allowance would make it harder for small-time drug traffickers to amass saleable quantities of drugs through over-the-counter purchases in the Netherlands. Both hard and soft drugs are officially illegal, but small-scale sales and purchases are not prosecuted, with authorities devoting their resources to pursuing large-scale traffickers. France and Germany contend that the availability of soft drugs in the hundreds of coffee shops attracts drug tourists who smuggle their purchases back to their home countries.

ECONOMIC WATCH

Hungary registers 1.5% growth



Hungary's gross domestic product rose by 1.5 per cent last year, down from 3 per cent in 1994, according to preliminary figures released yesterday by the central statistical office. Growth was led by exports which rose by 15-16 per cent in real terms while imports remained close to 1994 levels. The CSO said total GDP was around Ft5,500bn (\$4,300 per capita), around a third of the level in neighbouring Austria. However, this amounted to about \$7,000 per capita in purchasing power parity. The government and central bank estimates of a 2 per cent rise in GDP last year, far lower than rates of 5-7 per cent recorded in most other former Communist countries in the region. The modest upturn is attributed to a tough austerity package, brought in a year ago, which included cuts in welfare payments. The CSO said the cuts had contributed to a fall of about 6 per cent in average real incomes while real wages had fallen by 10-12 per cent. Virginia Marsh, Budapest Consumer prices in the EU rose 2.7 per cent in February from a year earlier, compared with a 2.9 per cent rise year-on-year in January, Eurostat said.

Income tax cut urged by BMW chairman

By Wolfgang Münchau in Munich Mr Bernd Pischetsrieder, chairman of BMW, yesterday urged the German government to raise value added tax and cut income tax. His call came a day after the chairman of Dresdner Bank attacked the government's high tax policies, and highlighted growing discontent among businesses about the high costs of production in Germany and the government's failure to combat rising unemployment and falling economic output. At BMW's annual news conference, Mr Pischetsrieder said: "We have for years pursued a policy which saw direct taxes as something of particular moral quality. Indirect taxes on the other hand seemed to be tarred with the mark of evil. An increase in value added tax and cut in income tax would reduce the cost of production of goods and services in Germany. This would have a favourable effect on the costs situation for industry." Germany's VAT rate is 15 per cent on most goods and services, compared with an EU average of 19 per cent. A rise in VAT would affect the price of cars to private buyers, but manufacturer's have said such a move would have no effect on competition as all vehicle makers would be affected. Chancellor Helmut Kohl said recently he remained firmly opposed to a rise in VAT during this parliamentary term, which is also the official position of the finance ministry and the Free Democrats, the junior partner in the Bonn coalition. Mr Horst Teltschik, a former adviser to Chancellor Kohl who joined BMW's board three years ago, said quietly when Mr Pischetsrieder launched his broadside on government tax policy. Mr Pischetsrieder also joined other German manufacturers in criticising the new tax on company cars, which is based on the value of the car. He said luxury cars had pioneered many technologies, such as the catalytic converter and the air bag, and accused the government of trying to "fan the flames of the old dialogue of envy". The increasingly blunt comments from business are unusual, as German companies have traditionally left political lobbying to the industry federations. But the federations have lost much of their effectiveness because of internal arguments. BMW results, Page 17

Themes ancient and modern in contest to design Europe's common banknotes

By Andrew Fisher in Frankfurt There is good and bad news on Europe's progress towards fulfilling the Maastricht criteria for economic and monetary union, Mr Alexandre Lamfalussy, the president of the European Monetary Institute, said yesterday, writes Peter Norman in Frankfurt. In all probability, there had been a "major change" towards convergence of inflation rates at a low level, he said. But fiscal and budgetary positions had deteriorated, with recent figures putting Germany's 1995 public sector deficit at about 3.5 per cent of GDP. EU member states will have to meet other conditions before starting EMU, including adequate convergence of long-term interest rates, implementation of national central bank independence and a demonstration of exchange rate stability. The notes will also have advanced security features to make them at least as forgery proof as existing currency. These will include watermarks and security threads, and special printing techniques such as optically variable ink. The notes will also be available for Americans. Mr Grandmaison told business representatives in Washington. Mr John Sullivan, an executive accompanying Mr Brown, said US business had learned from his experience after the Gulf War. Europeans and Japanese had received the lion's share of Kuwaiti reconstruction because they were first on the spot. British army units guided in UK business delegations at the close of the war, he said. Mr Brown said Bosnian and Croatian officials had been pressing for the US mission, and he may have deals to announce. He added that Boeing was "back at the table" in the bidding to supply civil aircraft to Croatia - the sale of 18 European Airbus aircraft may no longer be the "done deal" it seemed two weeks ago, he said. The US executives are concerned that European companies have a head start in bidding for reconstruction contracts to be awarded over the next three to four years. "The US delivered the peace, and the French are going to sell the goods," said Mr Joseph Grandmaison, head of the US Trade and Development Agency, who accused the Europeans of "cherry-picking" the best projects. "You will have to decide if any piece of the pie will be available for Americans," Mr Grandmaison told business representatives in Washington. Mr John Sullivan, an executive accompanying Mr Brown, said US business had learned from his experience after the Gulf War. Europeans and Japanese had received the lion's share of Kuwaiti reconstruction because they were first on the spot. British army units guided in UK business delegations at the close of the war, he said. Mr Brown said Bosnian and Croatian officials had been pressing for the US mission, and he may have deals to announce. He added that Boeing was "back at the table" in the bidding to supply civil aircraft to Croatia - the sale of 18 European Airbus aircraft may no longer be the "done deal" it seemed two weeks ago, he said. The US executives are concerned that European companies have a head start in bidding for reconstruction contracts to be awarded over the next three to four years.

Bosnia needs political solution, says mediator

By Nancy Dunne in Washington and Bruce CI in London Mr Carl Bildt, the international mediator in Bosnia, said yesterday he hoped that western forces would not be needed in the region beyond 1996, but stopped short of ruling this out. Asked whether he saw the need for military forces in Bosnia beyond this year, he said: "Not necessarily." He added, however, that he hoped a continued deployment would not be necessary, because the local parties should be taking more responsibility. "I would wish that we might be in a situation at the end of the year when we would not require the presence of military forces," he said. "The presence of a large number of foreign forces has an impact on a society which is not necessarily good in the longer term," he said in Washington, where he is lobbying for maximum support for Bosnian reconstruction ahead of a donors' conference in Brussels on April 12. He said the problems now faced by the peace process - reconstruction, reintegration and reconciliation - were all political tasks, not military ones and "political problems must be solved by political means". He said there still major difficulties to resolve ahead of elections, including a lack of telecommunications. Mr Ron Brown, the US commerce secretary, arrives in Bosnia today, accompanied by 15 US business executives who are interested in reconstruction contracts. In a rare show of co-operation with the administration over Balkan policy, the US Congress late last week approved \$18m for Bosnian relief for 1996, only \$3m less than requested. The aid package agreed by Congress includes \$65m for early disbursement to small and medium-sized Bosnian businesses and \$80m for infrastructure projects. The assistance will be concentrated in Tuzla, Zvornik and other regions where US soldiers are stationed. The US executives are concerned that European companies have a head start in bidding for reconstruction contracts to be awarded over the next three to four years.

Election freeze on Italian jobs

By Robert Graham in Rome Several key Italian public sector banking and business appointments have been postponed in the run-up to the general election on April 21. The appointments had become highly sensitive, with the right-wing alliance headed by former premier Silvio Berlusconi accusing the government of Mr Lamberto Dini of abusing its caretaker mandate. The most important appointment was that of Mr Franco Bernabè, chief executive of Eni, the state oil company. This has been put back for 45 days. The Dini government will almost certainly still be in office then; but the election result should provide some idea of the complexion of the next administration to help in the choice. The rightwing National Alliance of Mr Gianfranco Fini, Mr Berlusconi's principal partner, has been gunning for Mr Bernabè to control the oil group's considerable patronage, especially in the south. The other important appointment concerns that of Mr Mario Sarcinelli, the chair-

Handwritten Arabic text: سركا من الاصل

NEWS: EUROPE

Yeltsin signs Belarus union pact Country that wants to be loved by Russia

By Chrystie Frealand in Moscow

Jesus Christ and the ghost of the Soviet Union were both evoked at a lavish ceremony yesterday when Russian President Boris Yeltsin signed a landmark union treaty with neighbouring Belarus...

Less than three months ahead of the June 16 presidential ballot, the deal is part of Mr Yeltsin's campaign strategy of outflanking his communist rival by adopting his most popular proposals...

In an event covered live on national television, Mr Yeltsin and his Belarusian counterpart, Mr Alexander Lukashenko, signed a wide-ranging agreement on political, economic and military co-operation...

A historic moment has arrived in relations between the Russian Federation and Belarus, Mr Yeltsin said before retiring with his Belarusian counterpart to celebrate the deal with vodka.

But the signing - heavily laced with references to both Imperial Russia and the Soviet Union - could provoke fears in the west and independently-minded neighbouring countries such as Ukraine that Moscow intends to rebuild its old empire.

Alexei II, patriarch of the Russian Orthodox Church which was for centuries closely associated with the Kremlin's imperial achievements, was on hand to bless the "sacred cause".

Some observers speculated yesterday that this new treaty, which calls for eventual monetary union, could face a similar fate.

Mr Yeltsin, whose sights are firmly set on the forthcoming presidential battle, is unlikely to be troubled by such long-term concerns.

The Russian leader is likely to feel vindicated by the latest opinion polls which suggest that suggest his attempt to co-opt the political and economic agenda of the Communists is paying off.

A survey released yesterday showed Mr Yeltsin's approval rating at 21 per cent, up from 15 per cent at the beginning of March.

However, Mr Gennady Zyuganov, the Communist candidate, was still in the lead, with 27 per cent support.

Mr Yeltsin's shift towards a more openly expansionist policy could create a political dilemma for western leaders, who fear a resurgence of Russian imperialism, but also hope that Mr Yeltsin wins in June.



Boris Yeltsin beside a Kremlin guard dressed in a redesigned uniform after the signing of the treaty with Belarus yesterday

By Matthew Kaminski, recently in Minsk

Three times this century, Belarus turned into a killing field. Both wars claimed millions of lives and Stalin's purge claimed the small local intelligentsia.

Today the scars run deep, exposing a fatalism and passivity in the country of 10.7m that served to curb the national revival and broad commitment to change which characterised the post-1991 era.

As Lithuania and Poland banker to join the European Union and Ukraine works to strengthen its sovereignty, Belarus yesterday took another step back towards Russia.

The countries' two leaders signed a treaty establishing a Community of Sovereign Republics and promising ever deeper reintegration.

President Boris Yeltsin, running in a tough electoral race, needs the deal to court Russian voters saddened by their nation's lost prestige following the Soviet collapse.

His Belarusian counterpart, Mr Alexander Lukashenko, always argued that reformed links with Russia are preferable to any painful economic overhaul.

The treaty envisages a common monetary and fiscal policy in place by the end of 1997, when negotiations on a common currency ought to begin.

Under the treaty, the countries would stay independent, but Mr Lukashenko does not shy away from calling for an outright confederation.

From the Russian perspective, the economic argument for union must make limited sense. In the past two years, Russia has refused to throw Belarus a financial lifeline.

Officials in Minsk might expect Russian industrial giants to revive the commercial activities that gave Belarus the highest living standards in the Soviet Union.

Unlike his Russian peers, Mr Lukashenko remains strongly committed to a command economy: last year strict foreign currency regulations were reimposed and privatisation was halted.

The international Monetary Fund, which last month approved a \$10.2bn loan for Russia, this year cancelled Belarus's \$300m stand-by facility.

Russian customs officials police the western Belarusian border with Poland and Moscow's troops remain where they were in 1991.

Mr Stanislaw Bobdankevich, a former national bank chairman whose liberal Civic Union party holds 20 of the 197 seats in parliament, called the union treaty "an ordinary bluff".

The Belarusian president's motives tend to baffle outsiders. After he took office in 1994, newly published Belarusian school books were replaced with the old Soviet history and language texts.

Few Belarusians speak their own language and most schools continue to teach only in Russian.

Belarus, unlike other eastern European nations, has never developed an independent identity - and the current president and his supporters appear to prefer it that way.

Some observers speculated yesterday that this new treaty, which calls for eventual monetary union, could face a similar fate.

Mr Yeltsin, whose sights are firmly set on the forthcoming presidential battle, is unlikely to be troubled by such long-term concerns.

The Russian leader is likely to feel vindicated by the latest opinion polls which suggest that suggest his attempt to co-opt the political and economic agenda of the Communists is paying off.

A survey released yesterday showed Mr Yeltsin's approval rating at 21 per cent, up from 15 per cent at the beginning of March.

However, Mr Gennady Zyuganov, the Communist candidate, was still in the lead, with 27 per cent support.

Mr Yeltsin's shift towards a more openly expansionist policy could create a political dilemma for western leaders, who fear a resurgence of Russian imperialism, but also hope that Mr Yeltsin wins in June.

Under the treaty, the countries would stay independent, but Mr Lukashenko does not shy away from calling for an outright confederation.

From the Russian perspective, the economic argument for union must make limited sense. In the past two years, Russia has refused to throw Belarus a financial lifeline.

Officials in Minsk might expect Russian industrial giants to revive the commercial activities that gave Belarus the highest living standards in the Soviet Union.

Unlike his Russian peers, Mr Lukashenko remains strongly committed to a command economy: last year strict foreign currency regulations were reimposed and privatisation was halted.

The international Monetary Fund, which last month approved a \$10.2bn loan for Russia, this year cancelled Belarus's \$300m stand-by facility.

Russian customs officials police the western Belarusian border with Poland and Moscow's troops remain where they were in 1991.

Mr Stanislaw Bobdankevich, a former national bank chairman whose liberal Civic Union party holds 20 of the 197 seats in parliament, called the union treaty "an ordinary bluff".

The Belarusian president's motives tend to baffle outsiders. After he took office in 1994, newly published Belarusian school books were replaced with the old Soviet history and language texts.

Few Belarusians speak their own language and most schools continue to teach only in Russian.

Belarus, unlike other eastern European nations, has never developed an independent identity - and the current president and his supporters appear to prefer it that way.

Belarus, unlike other eastern European nations, has never developed an independent identity - and the current president and his supporters appear to prefer it that way.

Belarus, unlike other eastern European nations, has never developed an independent identity - and the current president and his supporters appear to prefer it that way.

Belarus, unlike other eastern European nations, has never developed an independent identity - and the current president and his supporters appear to prefer it that way.

Belarus, unlike other eastern European nations, has never developed an independent identity - and the current president and his supporters appear to prefer it that way.

Belarus, unlike other eastern European nations, has never developed an independent identity - and the current president and his supporters appear to prefer it that way.

Belarus, unlike other eastern European nations, has never developed an independent identity - and the current president and his supporters appear to prefer it that way.

Belarus, unlike other eastern European nations, has never developed an independent identity - and the current president and his supporters appear to prefer it that way.

Belarus, unlike other eastern European nations, has never developed an independent identity - and the current president and his supporters appear to prefer it that way.

Belarus, unlike other eastern European nations, has never developed an independent identity - and the current president and his supporters appear to prefer it that way.

Belarus, unlike other eastern European nations, has never developed an independent identity - and the current president and his supporters appear to prefer it that way.

Belarus, unlike other eastern European nations, has never developed an independent identity - and the current president and his supporters appear to prefer it that way.

Belarus, unlike other eastern European nations, has never developed an independent identity - and the current president and his supporters appear to prefer it that way.

Belarus, unlike other eastern European nations, has never developed an independent identity - and the current president and his supporters appear to prefer it that way.

Juppé welcomes Socialist predecessor's jobs plan

Mr Alain Juppé, France's centre-right prime minister, yesterday gave a warm reception to proposals from one of his Socialist predecessors for a radical cut in working hours to create more jobs.

Mr Juppé took the unusual step of receiving Mr Michel Rocard at his office and instructing the government's planning department to study his proposal for varying payroll deductions in proportion to the reduction in the working week from the current 39 hours to a future 32 hours.

Mr Rocard argues that the cost of the measure could be met by the saving on welfare benefits to the state from a substantial reduction in unemployment, which stood at 11.8 per cent of the workforce in February.

An official close to Mr Juppé said the prime minister was "very attentive to all those who have imaginative ideas for adapting or reducing working hours", and had ordered a detailed cost-benefit study of the measure within six weeks.

Mr Juppé reiterated in an interview with the weekly Catholic magazine, La Croix, that the government would intervene with new laws by the middle of this year if bosses and unions did not agree some change in the working week based on their own discussions.

"If there is nothing else happening, we will try to come up with an intelligent text which is as balanced as possible," Mr Juppé said.

Deutsche Bank's latest Annual Financial Statements:

Transparent, comprehensive and international

We are the first German bank to prepare a "crystal-clear" balance sheet. We have done so in response to the greater demands for transparency and information quality.

- international comparability
release of hidden reserves
valuation of trading profit at current market values
disclosure of total provisions for losses on loans and advances.

Shareholders, financial analysts and the general public gain comprehensive insight into our Group's assets, liabilities, financial situation and profits and obtain a broader basis on which to value the Deutsche Bank share.

This voluntary reporting is a further step in our open information policy. If you would like more information about Deutsche Bank, we shall be pleased to send you our full Consolidated Financial Statements according to IAS.

Table with 2 columns: Description and Page Number. Includes sections like Consolidated Financial Statements, Balance Sheet, Income Statement, etc.

Fax service 069/5 08 33 89
Service telephone 069/5 07 43 41

Information also available on the Internet: http://www.deutsche-bank.de

Request form for Annual Report and/or CD-ROM containing Deutsche Bank's IAS Consolidated Financial Statements for 1995. Includes fields for name, address, and telephone.



NEWS: INTERNATIONAL

G7 agreement at Lille conference after intense discussions seen as setback for several participants

Labour standards 'must be included in growth strategy' Most new US jobs in 'high-wage sectors'

By Robert Taylor in Lille

The Group of Seven leading industrialised nations yesterday agreed that the enhancement of core labour standards was necessary in any global strategy for economic growth.

The agreed communiqué ending the G7 economy and labour ministers' two-day conference in Lille in northern France was only reached after many hours of intense behind-the-scenes discussion and was seen as a setback for the views of several participants, notably Japan, Germany, the UK and Canada.

They had expressed opposition to any reference to labour standards in the document emerging from the conference.

But the UK government said last night the outcome could have been much worse from its point of view. Initially France and the US had wanted the communiqué to say G7 should insist the labour standards issue should be on the agenda at the December meeting in Singapore of the World Trade Organisation. But this proposal



Robert Reich: US to press hard on jobs issue at WTO

was removed over yesterday's lunch after the UK and others had expressed strong opposition to it.

France, which had called the conference, put the labour standards issue at the forefront of the meeting and, along with the US, insisted on a clear commitment.

The G7 comprises the US,

Japan, Germany, France, Italy, the UK and Canada.

Mr Robert Reich, US labour secretary, made clear yesterday that the US intends to press hard on the issue in the WTO. He said it was "a proper forum for a discussion" of labour standards that cover trade union freedoms, prevent the employment of children and ban forced labour.

The communiqué said: "We note the importance of enhancing core labour standards around the world and examining the links between these standards and international trade in appropriate fora."

Ministers awaited "with interest the completion of studies currently under way at the Organisation for Economic Co-operation and Development and the International Labour Organisation on the social dimensions of international trade".

However, there was also a strong commitment, backed unanimously by all the governments at the conference, to fiscal discipline in the running of their economic policies.

"The G7 countries must endeavour to control public spending more effectively in order to reduce their deficits," said the communiqué. "Reducing deficits will help to create a more favourable climate for private investment and income growth against a background of moderate interest rates."

Other proposals which won general agreement included:

- A "modernisation" of the "regulatory framework" in goods and services.
- The active encouragement of small and medium-sized enterprises with venture capital to help in new technologies.
- The need to promote policies to ensure "the security of employability over individuals' working lives".
- Changes in the tax and benefits system "to make work pay particularly for the least well-off"; in addition, cuts in non-wage labour costs "where appropriate".
- Policies targeted on helping the long-term unemployed and to integrate young job seekers into regular jobs.

By Robert Taylor in Lille

The US economy may have generated up to 9m new jobs over the past three years - nearly 70 per cent in high-wage occupations, according to a study prepared for President Bill Clinton by his Council of Economic Advisers.

US delegates at the Group of Seven leading industrialised countries' employment summit surprised European counterparts with evidence indicating extraordinary success in the US labour market. The report, presented to finance and labour ministers gathered in Lille, conflicted with a widespread belief among continental European countries, which had felt many new US jobs were low-paid, low-skilled and insecure.

The study, to be published in early summer, says:

- While provisional estimates indicate that 8.4m jobs have been created since January 1993, the Council of Economic Advisers believes the true figure will be around 9m.
- The vast majority of the jobs are paying wages that are



Ron Brown: success due to wide range of policies

14-17 per cent higher than the US national average.

As many as 60 per cent of the new jobs have been in managerial and professional occupations, mainly in the services sector. In the last year, 54 per cent of the net employment growth occurred in high-wage industries. "These are not hamburger flipper jobs but require high educational quali-

fications," said Mr Joe Stiglitz, chairman of the Council of Economic Advisers.

Most of the new jobs are full-time, not part-time, averaging around 37 hours a week, with 93 per cent of them in the private sector.

The fastest job growth has been among medium-sized companies employing an average of 500 people. Up to 2m new enterprises have been created in the past three years.

"These facts dispel the myths Europeans have about our labour market," said Mr Stiglitz. "The idea that many people have that the new US jobs are low-quality and low-paid is just plain wrong."

Mr Ron Brown, US commerce secretary, said the US success was due to a wide range of policies beyond those involving the labour market. "Our successful programme for reducing the federal deficit has made more funds available in capital markets and supported high levels of investment and strong productivity growth, all of which are essential in order to create good jobs," he said.

Mubarak, Assad in talks on Gaza curb

By James Whittington in Cairo

Egypt's President Hosni Mubarak made an unexpected trip to Damascus yesterday, for talks with President Hafiz al-Assad, his Syrian counterpart, amid heightened tension between Israel and its Arab neighbours over Israel's curbs on the movement of Palestinians from Gaza and the West Bank.

Egypt and other Arab countries have expressed irritation at Israel's measures against the Palestinians following a wave of suicide bombings by Islamic militants last month.

Mr Esmat Abdel-Meguid, secretary-general of the Arab League, yesterday added his voice to the complaints: "The question of collective punishment is regrettable; this can destroy the peace process," he said in Cairo.

Officials said Mr Mubarak and Mr Assad would discuss the Syrian-Israeli peace talks, suspended last month after the suicide bombings. The leaders were expected to discuss alarming reports in the Arab press that radioactive waste has leaked from Israel's nuclear reactor at Dimona in the Negev Desert.

Mr Yossi Sarid, Israel's environment minister, has denied the Dimona nuclear complex posed any hazard, but Egyptian monitors have been sent to the Israeli border to check radiation levels. Yesterday, the Arab League called a meeting of its permanent representatives for next week to discuss the issue.

Palestinian President Yasser Arafat yesterday slammed a proposal by Israel's Prime Minister Shimon Peres for a referendum in Israel on a future permanent peace deal with the PLO, Renter reports from Gaza.

"This is completely against what has been agreed," Mr Arafat said in Gaza. Mr Peres' call came on Monday on a flight to the Arab state of Oman, effectively removing a contentious issue from debate in Israel less than two months before the May 29 elections.

How not to impress the government of Turkmenistan

Sander Thoenes on the pitfalls awaiting foreign companies hoping to do business in the gas-rich central Asian country

Mr Carlos Bulgheroni thought he knew how to impress the impoverished government of Turkmenistan. Just outside Ashkhabad, the capital, where most people earn less than \$20 a month, the Argentine oil and gas magnate feted government officials on caviar and escorted them around the green lawns of his lavish company compound. This would tell the Turkmen that they were dealing with a serious investor, he thought.

The Turkmen were more than impressed; they concluded Mr Bulgheroni's company, Bidas, was getting more than its fair share in two joint ventures with the government. "When the contract was first

signed, it was not profitable for both sides," said Mr Amangeldy Esenov, minister of oil and gas. "Say you have a jacket, and I don't. We should both have a jacket. If I had been able to foresee the future three years ago, I would have signed a different contract, a civilised contract that would be profitable for both."

To persuade Mr Bulgheroni to help correct Turkmenistan's mistake, Mr Esenov blocked Bidas's oil exports last autumn. He also snubbed Mr Bulgheroni's grandiose plans for a gas pipeline through Afghanistan to Pakistan, supporting a similar proposal from US competitor Unocal instead. Mr Bulgheroni said he invested \$400m and would like



to invest another \$1.5bn in a gas field said to hold 800bn cubic metres of gas. "Now he is withholding new investments and is considering asking the Paris-based International Chamber of Commerce to arbitrate. 'If you don't have

a rule of law," he said, "how can we work here?"

Privately-owned Bidas is by far the largest investor in Turkmenistan. Although the country boasts 13 trillion cu m in gas reserves, the bigger international companies have

stayed away. The second largest investor, Dutch-based Larmag, twice saw its exports blocked in the past two years when the government demanded a larger share of its production.

Mr Lars-Erik Magnusson, Larmag's president, gave in but warned Turkmenistan that his project would be dead if it suffered a third interruption.

"The new potential investors in Turkmenistan look to see how the current investors are faring to determine whether to invest or not," Mr Magnusson said. "Our history in Turkmenistan has been brief and not particularly smooth."

The Turkmen accuse Larmag and Bidas of breaking promises to invest in new wells.

Western businessmen in Turkmenistan say that is true, but do not believe the government's solution has any hope of working. Mr Esenov says he has prepared an oil and gas law that would force companies that invest less than they have pledged to pay the difference to the government.

Another barrier to investment is the lack of a reliable export route for either oil or gas. Plans for construction of pipelines to Pakistan, China and Europe are futuristic at best.

The Russian gas monopoly Gazprom has cancelled Turkmenistan's access to Soviet-era pipelines to the west and controls 46 per cent of a joint venture for gas exports from the

republic. Gazprom and Unocal are negotiating a pipeline to Pakistan, but some western gas experts doubt that Gazprom, notoriously jealous about control of gas projects in the region, is likely to support one that would break its grip on the country.

Mr Bulgheroni appears not to be deterred. But many visitors at a recent oil and gas conference in Ashkhabad concluded that he was in trouble when they witnessed a brief visit by Mr Saparmurat Niyazov, the president of Turkmenistan. Mr Niyazov descended the stairs arm in arm with the chairman of Gazprom and the president of Unocal. Mr Bulgheroni had to make do with a handshake.

to buy maker

atient nam

locks on ports

HEWLETT PACKARD

You need room to expand.

network and applications your company has now or plans to use, an HP PC lets you expand to your maximum potential at minimal expense. You won't feel confined when one arrives either. All the HP PCs from our easy-to-use Line offer up to the maximum performance X-treme come fully equipped ready to run, right out of the box, so you just have to plug in and play with your installation.

costs minimized there will be plenty of breathing room in your budget as well. For more information contact your local authorized dealer or visit our website at <http://www.hp.com>

**HP HEWLETT PACKARD**



NEWS: THE AMERICAS

Republicans seek political capital out of NY case

Drug ruling by judge stirs critics of Clinton

By Jurek Martin, US Editor, in Washington

A federal judge's decision in New York this week to reverse his own ruling in a narcotics case may have temporarily cooled a particularly hot controversy, but the role of the independent US judiciary is likely to remain a bone of political contention throughout this election year.

Judge Harold Baer, appointed to the bench by President Bill Clinton two years ago, had originally ruled in January that the New York police did not have "probable cause" to search a car found to contain 50lbs of cocaine and marijuana. So, he declared the drug haul inadmissible evidence in the subsequent prosecution.

That brought him much criticism, on the grounds that he was typical of the sort of anti-police, soft-on-crime liberal that the president was intent on foisting on the country.

Senator Bob Dole, the presumptive Republican presidential nominee, demanded that the judge be impeached, the only legal way to force the removal of members of the federal judiciary, who are appointed for life.

The White House was thoroughly alarmed that the president's tough stance against crime might be undermined by a Republican use of Judge Baer as the "Willie Horton" of the 1996 campaign. This refers to

effective Republican commercials eight years ago citing the case of a rapist pardoned by Mr Michael Dukakis, then the Democratic presidential candidate, when he was governor of Massachusetts.

So, the White House called Judge Baer's original ruling "grievously wrong." But it said the proper remedy was a challenge in court, which it duly instituted. The judge responded on Monday, reversing his ruling and apologising for uncomplimentary remarks he had made about police brutality and corruption.

But the administration also went on the offensive against its critics. Mr Jack Quinn, White House legal counsel, used the Wall Street Journal's editorial pages last week to argue that the record on crime of conservative judges appointed by Presidents Reagan and Bush, both Republicans, was also mixed.

Appointments to the federal bench, perhaps the most important acts of domestic patronage accorded to a US president, are perennially controversial, most notably whenever a new justice is nominated to the Supreme Court.

"Impeach Earl Warren" bumper stickers were commonplace 40 years ago when the then Chief Justice, nominated by President Dwight Eisenhower, was setting precedents on desegregation and civil rights. Judge Frank Johnson of Alabama was similarly attacked

for having rigorously applied the new line at state level.

This time, the Republican assault, given strong voice by then vice-president Dan Quayle in the 1992 election, is partly derived from the fact that trial lawyers have become big financial contributors to the Democratic Party and to Mr Clinton, himself a lawyer.

But there is also a strong ideological tinge to the political debate, beyond Mr Dole's conventional promise to name only strong conservatives to the bench. Mr Pat Buchanan, the right-wing pundit and presidential contender, would require that all judges certify their opposition to abortion and be subject to removal by public petition. He has also directed savage condemnations at Mr Clinton's two appointees to the Supreme Court, Justices Ruth Bader Ginsburg and Stephen Breyer.

The irony is that Mr Clinton's judicial appointments, on most objective assessments, have not been very liberal. About 40 per cent of the 53 judges he named last year were former federal prosecutors, generally tough on criminals, while the American Bar Association, no hotbed of liberals, has found his appointees more "qualified" than those of his three predecessors as president.

But one exception can make a mess of any rule - as the case before Judge Baer has demonstrated.

US teen pregnancy rate high

The US has the highest rate of teenage pregnancies and births among the developed nations, according to a study reported yesterday by the Journal of the American Medical Association, AFP reports from Washington. "Despite similar rates of sexual experience, rates of adolescent pregnancies and births are higher in the US than in other developed countries," said the study. "An estimated 95 per cent of pregnancies among teenagers

are unintended," it added. A team from the Centers for Disease Control and Prevention, in Atlanta, Georgia, studied the number of pregnancies, births and abortions among teenagers.

The report said that the pregnancy rates among 15- to 19-year-olds had remained fairly stable from 1980 to 1985, but had increased by 9 per cent during the last half of the decade. The rate reached 95.9 preg-

nancies, per 1,000 girls 15 to 19 years old, by 1990. Birth rates among girls 15 to 19 years old declined by 4 per cent in 1990-95, but increased by 18 per cent in 1985-90 reaching 59.9 births per 1,000 girls 15 to 19 years old in 1990.

Rates of abortions among girls 15 to 19 years old remained stable during the 1990s, with 35.8 per 1,000 girls in that age range in 1990 and 36 abortions per 1,000 girls in 1990.

Caribbean cold shoulder for Cuba trade

By Pascal Fletcher in Havana

The Caribbean Export Development Agency sent its first trade mission to Cuba this week, but several companies in the region chose to stay away, apparently fearful of recent US legislation aimed at discouraging foreign trade with and investment in the island.

The agency, which receives European Union funding and represents the English-speaking Caribbean Community (Caricom) plus the Dominican Republic and Haiti, had hoped to bring executives from more than 25 companies on the three-day Cuba mission

that started on Monday. In the end, 14 companies came, mostly from Trinidad and Tobago.

Organisers blamed the lower participation on US legislation, introduced on March 12, which tightens the long-standing US economic embargo against Cuba by threatening penalties against foreign companies which "traffice" in expropriated property on the island.

Much of such property used to be US-owned before it was nationalised by the communist administration of President Fidel Castro.

"When we planned this mission, we had a lot more companies coming," Mr

Allan Marsh, marketing officer of the Caribbean Export Development Agency, said. "Many people were concerned because they trade directly with the US," he added.

Caribbean exporters who did not travel to Cuba seem to have feared that US authorities might retaliate against them by denying them entry visas to the US.

However, Mr Earle Bacous, executive director of the Caribbean Export Development Agency, said the presence of executives from 14 companies in Havana still reflected the region's interest in Cuba.

Those represented included the Port

of Spain-based Republic Bank and the Trinidad and Tobago National Petroleum Marketing Company.

Cuban officials praised the "independence and resolution" of the Caribbean exporters who had made the trip. "Cuba's trade with the Caribbean is important and we hope it can grow further," said Mr Orlando Hernandez, Cuban vice-minister for foreign trade.

Cuba's two-way trade with the Caribbean in 1995 totalled \$300m, mostly Cuban imports of oil and oil products from Trinidad and Tobago and the Netherlands Antilles. Cuban exports included cement, steel and pharmaceuticals.

Separatist factor stalks Quebec

Bouchard tries to counter business uncertainty, writes Bernard Simon

Since Mr David Payne arrived in Montreal from his native Yorkshire in England 25 years ago, the former philosophy lecturer has learnt to speak French with a Québécois accent, married a Québécoise, and become an avid Quebec separatist.

So avid in fact that Mr Payne - who gave up teaching to enter politics in the late 1970s - was recently named parliamentary secretary to Mr Lucien Bouchard, the province's premier, with special responsibility for drumming up foreign investment.

Attracting foreign capital is part of Mr Bouchard's plan to revive Quebec's economy. The province's unemployment rate is over 11 per cent, well above the national average, and it has so far made less progress in tackling its budget deficit than any of Canada's other nine provinces. Montreal's property market is in a deep slump.

Mr Bouchard convened a conference of business, labour and political leaders last month to try to forge a consensus on economic and social policy. He succeeded in securing their agreement for a law that would require the deficit to be eliminated within the next four years.

Public spending cuts have already begun to bite with the closure of hospitals and reduced welfare payments. Mr Bouchard has warned that every sector of Quebec society will be asked to make sacri-

fices in coming months.

But the clear message from the business side at the conference last month was that the biggest obstacle to a sustained recovery was political uncertainty.

Local and foreign investors

admitted to the North American free trade agreement, nor that it would be able to retain the Canadian dollar as its currency.

Events since the referendum have also raised fears of civil unrest should voters opt for independence in a future vote. Some anglophone and aboriginal groups have said they would push for Quebec itself to be partitioned.

However, as Mr Payne sees it, "one person's challenge is another's opportunity". He says that "in the eventuality of a Yes vote, [foreign companies] would need to do business. They would need a head office here anyway."

Quebec "is not difficult to sell", Mr Payne said last month, soon after a trip to Taiwan. He cited a group of Middle East investors, whom he said were thinking of setting up a regional airline in Montreal.

Mr Payne dismisses the suggestion that he is regarded as a turncoat in the English-speaking community, which overwhelmingly wants Quebec to remain part of Canada. "I've always been out to bat for English interests within the PQ," he says.

A number of established foreign investors have not allowed political uncertainty to stand in the way of expansion. GEC-Alsthom, the UK-French engineering group, recently bought a railway repair shop in Montreal. Sweden's Volvo and UK-based Henlys Group



Swapped white rose for fleur-de-lis: transplanted Yorkshireman David Payne finds Canadian province not difficult to sell

have been especially rattled by the independence referendum last October, which the federalist camp won with a wafer-thin 50.6 per cent of the vote.

A Toronto economics consultant who sits on several Canadian pension fund boards says that all but one of the funds have sold their Quebec securities. A property financier adds

are reflected in the yield on Quebec's long-term bonds, which is currently 0.64 percentage points above equivalent government of Canada securities, compared with 0.36 points for neighbouring Ontario.

Long-term investors have several concerns. There is no guarantee that an independent Quebec would be automatically

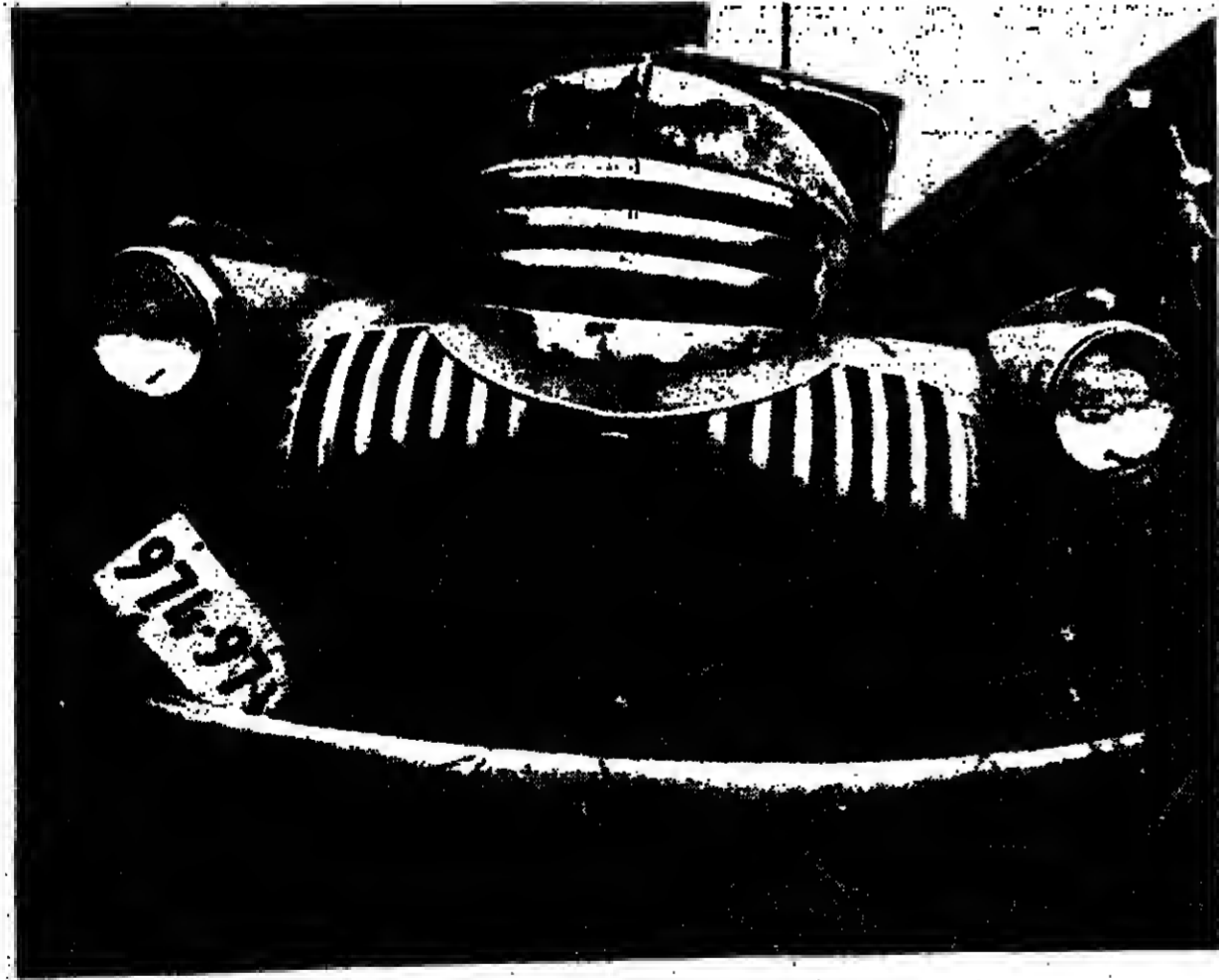
plan to expand a jointly-owned bus factory close to the US border.

Mr Bouchard, who took over as premier in January, has promised to put economic recovery ahead of a renewed drive for sovereignty. He has also said that he will not call another referendum until he is sure of winning. "The chronological priority is the economy, the fundamental priority is sovereignty," Mr Bouchard said earlier this week.

Most business people would prefer the premier to be less ambivalent. Mr Jean Monty, chief executive of Northern Telecom, the telecommunications equipment maker, called on Mr Bouchard to declare a "referendum moratorium" for at least the next seven or eight years. Mr Monty said that Nortel would continue to invest in the province, but that political uncertainty was discouraging some senior executives from moving to Quebec.

In the absence of an about-turn by Mr Bouchard, the investment mood is likely to hinge on the degree of economic and civic turmoil.

The need for stability was drummed home to Quebec leaders earlier this year when Mr Bouchard's predecessor, Mr Jacques Parizeau, met about 20 large UK investors in London. The clear message given to the premier, according to Mr Payne, was that "they didn't want to see upssets after a Yes vote".



Inventory. The longer it sits, the harder it is to move.

Despite what your balance sheet might tell you, inventory is no longer an asset. Today, big inventories can slow business and even bring it to a screeching halt. But you can keep your profits moving in the right direction by boosting productivity in your supply chain.

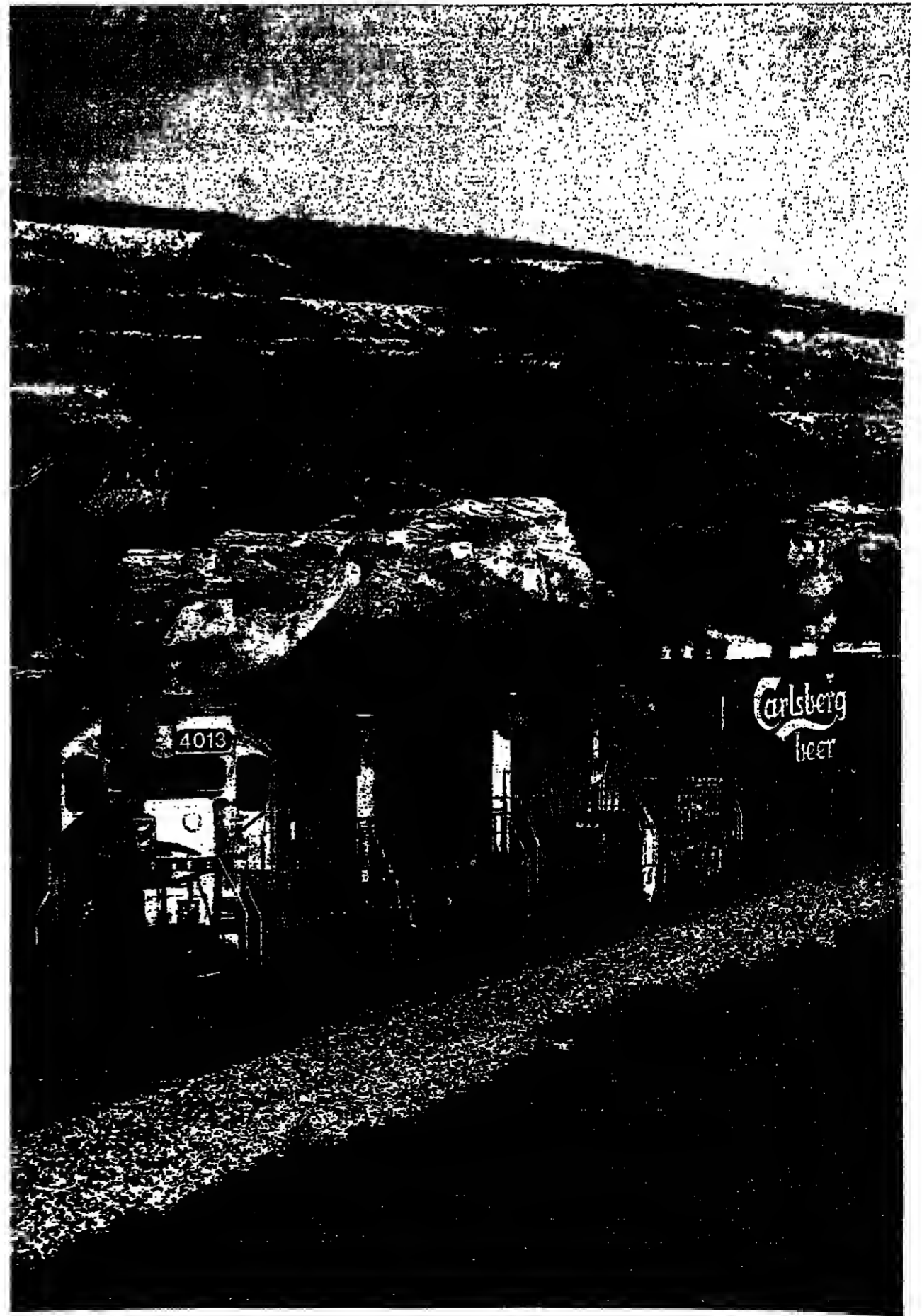
GE Information Services can help you shorten cycle times, improve inventory turns and eliminate out-of-stock occurrences. We'll show you how to link suppliers, manufacturers and distributors electronically so that your purchase orders and invoices are easily sent and tracked, auditing is greatly simplified and customer buying trends are instantly identified through point-of-sale data. For one large retailer, that meant reducing stock replenishment cycles from 3 days to 3 hours. Another one of our clients now gets spare parts to overseas distributors up to 10 days sooner.

You'd be surprised how much smoother your business will run after a tune-up by GE Information Services. Productivity. It's All We Do.™



GE Information Services

For more information, please call 1-800-360-GEIS, or write GE Information Services, MCDFE2, 401 N. Washington St., Rockville, MD 20850. Find us on the Internet at http://www.geis.com.



# Japan agrees exchange of ministry staff

By Michael Cassell, Business Correspondent

Britain's Department of Trade and Industry and Japan's Ministry of International Trade and Industry have agreed to exchange senior officials to help forge closer trading links between the two countries.

The ground-breaking initiative emerged yesterday, one week before Mr Ian Lang, UK trade and industry secretary, heads the largest ever British trade mission to Japan to try to narrow the UK-Japan trade gap.

Mr Lang described the decision to swap senior personnel as "an exciting new development" which represented the start of a programme of secondments between the two ministries.

The first Japanese recruit has been chosen and will arrive in London in June for a two-year stay. A senior DTI official, yet to be selected, will go to Tokyo later this year; others are expected to follow in both directions.

The British department already exchanges one or two officials each year with French and German ministries, but only for six-month periods. It is also believed to be the first time MITI has agreed to any programme involving the release of senior staff for such extended periods.

The MITI candidate is to be appointed to what is being described as a senior management position within the British department's automotive directorate, a manufacturing sector in which the UK wants to improve its trading performance with Japan. He will also participate in an analysis of the effectiveness of UK automotive trade associations.

The department's effort to boost exports to Japan already includes the appointment of nine export promoters who have been given responsibility for helping UK companies sell into the market. Last year, British exports to Japan rose by 26 per cent to £3.8bn

The British government's export support services are performing well, but improvements are needed to help tackle the nation's falling share of world trade, says the UK National Audit Office, its examination of support and promotion machinery from Overseas Trade Services - operated by the Department of Trade and Industry and the Foreign Office - concludes that it generates "useful levels" of export business.

Last year, UK visible exports totalled £153bn (\$232.6bn), an increase of £18bn on the previous year, although as in most European countries they continued to rise more slowly than world trade. The audit office calls for better targeting of effort on priority businesses and world markets, speedier response times to market information inquiries and improved performance monitoring of OTS services. More precise analysis of the cost of export support services - costing £190m in 1994-5 - is also recommended.

(£5.7bn). But with Japanese exports to the UK increasing to £9.6bn, the visible trade deficit remained almost unchanged.

Mr Lang, who will visit MITI during his four-day visit to Japan, said yesterday that the government wanted to raise UK exports to Japan to £5bn by 1997-98. He believed there was potential to double that figure again over the next few years.

Mr Lang will be accompanied by Mr Ryoichi Hashimoto, the prime minister, he will discuss the further opening of Japanese domestic markets, in particular those in the telecommunications sector.

He will also talk to Japanese companies planning to make further investments in the UK.

## The beef crisis Cattle waste 'will produce more energy per tonne than chicken litter'

# Cows proposed as fuel for power stations

By George Parker and Alison Maitland in London

Power stations could soon be burning cows in place of coal if the government gives the go-ahead for an option being considered for the disposal of cattle waste made virtually worthless by the BSE crisis.

The rendering industry, which performs the task of boiling down cattle remains, faces devastation because it can no longer sell meat and bonemeal to farmers as animal food. The new restrictions, announced by the agriculture ministry on March 26 following revelations about a possible link between BSE and CJD,

deprived the industry of its most saleable end product. Ministers and the industry are working together to see whether rendered carcasses could be used as a novel fuel for power stations.

The UK Treasury is particularly anxious to put the rendering industry back on a sound footing in the longer term. On Monday it agreed to fund a £118m (\$179.4m) aid package to the industry for the current financial year, to ensure it does not collapse.

Mrs Angela Browning, junior agriculture minister, said the rendering industry was vital in destroying waste animal products and that its long-term

survival was essential. "Using the rendered material for fuel has potential but it will need some work done on the sort of thing that needs to be investigated more closely."

Prosper De Mulder, the largest rendering company in the UK, confirmed it was looking at the possibility of burning surplus meat and bonemeal as fuel in power stations "to recover some value from it".

Mr Charles Reynolds, a director of Prosper De Mulder, said the company was talking to energy generators and also looking at the possibility of using the sand-like substance

for in-house fuel. "It will produce more energy per tonne than chicken litter, which is used in power stations, and it has two-thirds the calorific value of coal," he said.

"Its use to generate heat and energy is the most obvious alternative route... it would be combusted at 900 degrees centigrade and that would kill everything. It would be totally sterile."

One drawback is that meat and bonemeal leave a residue after burning that amounts to 25 per cent of its input weight compared with only 8 per cent when coal is burned. In other words, there is higher wastage from the process.

The rendering industry is also considering a way of overcoming the shortage of incinerators to burn 15,000 older cattle which are expected to be destroyed each week rather than enter the food chain.

This would involve the animals being cut up and rendered down, with the fat residue used either for industrial purposes or recycled in the rendering process itself - being burned to produce steam.

The residual dry matter - which would consist of meat and bonemeal - could then be burned for power, industry officials suggest.

# Minister mauled by critics in EU and his own party

By Caroline Southey in Brussels and James Harding in London

EU farm ministers were finding it hard yesterday to live up to the expectations of their political masters split out in Turin last weekend - to work collectively and in solidarity with Britain to put the bottom back into Europe's beef market.

For much of the day, frayed tempers got the better of ministers and their officials. One of the prime targets was Mr Douglas Hogg, the British agriculture minister. His biggest handicap was the lingering sense of anger still felt by many of his EU partners over his handling of the "mad cow" crisis in the run up to the council meeting.

"It has been a litany of disastrous errors; it was outrageous that the British government failed to inform anybody," an EU diplomat said. "If he gets anything out of this meeting it will be a miracle."

Mr Hogg infuriated Mr Franz Fischer, the agriculture commissioner, by not forwarding the European Commission of the impending crisis when the UK government knew last month that it would have to publish the scientific report linking BSE to Creutzfeldt-Jakob Disease in humans.

He appears to have deepened the ill-feeling by his failure to outline all the measures Britain was prepared to take to eradicate BSE. His diplomatic skills were also under attack.

"If you are trying to convince people to believe in your programme, you need additional skills. Establish friendships, have a beer, a meal, talk about the kids or the weather. Relax. It is difficult for him to do this," the diplomat said.

In Westminster too, there has been little enthusiasm for the work of the agriculture minister. As yet, the recriminations in parliament continue to focus on the failure to consult the Commission and win European support.

"There has not yet been much criticism filtering back of his handling of the crisis in Luxembourg, but clearly he has not managed this very well in the last ten days," one rural Conservative MP said. Another senior Tory colleague said he was not surprised that Mr Hogg was being bruised by the beef crisis. "He was never seen as great material for the offices of state."

Supporters of Mr Hogg would rather blame his European counterparts. One said yesterday: "This is a European problem. They created the public hysteria by introducing a completely unwarranted ban. It is

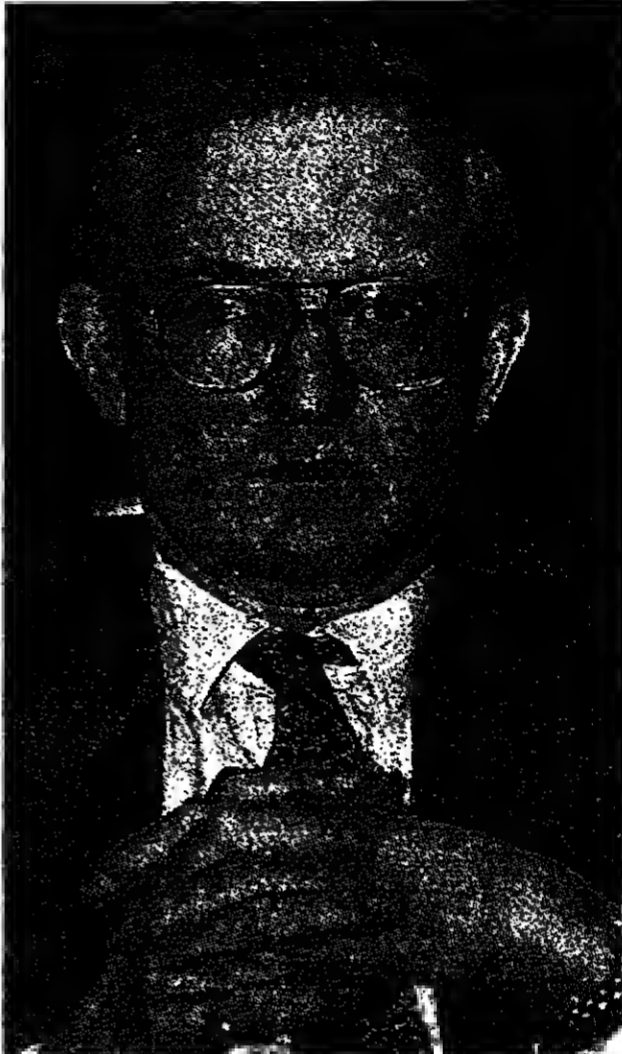
up to them to restore market confidence and insist they are treating the crisis in an obviously cynical way."

In Luxembourg, there were also some who were prepared to speak up for the beleaguered minister. "He was precise and to the point when he put Britain's case in the session on Monday. It was impressive," an EU official said. "But there are many who have scores they would like to settle with Britain so he is not getting the credit due to him."

For people such as these, there were others to blame for the malaise in the council's proceedings.

The Italian presidency was running a close second to Mr Hogg. Some EU diplomats felt the presidency had spent most of Monday trying to piece together broad political principles when most ministers were looking for a little more meat.

To add to the tensions, relations between the presidency and the Commission appeared in bad shape, reaching a low point after midnight on Monday when Mr Walter Luchetti, the Italian farm minister, made clear he would press ahead with drafting conclusions from the inconclusive meetings of the day - without Mr Franz Fischer, the EU Commissioner for agriculture. The Commissioner was not amused.



British agriculture minister Douglas Hogg: "It will be a miracle" if he gains anything from the EU meeting, said an official

# Company loses asbestos appeal

By John Mason and Tim Burt

T&N, the motor components and engineering group, yesterday lost a legal challenge over asbestos-related illnesses when the Court of Appeal ruled that the company was liable to pay damages to victims who lived close to a former factory.

Although the court stressed that the action was not technically a test case, its ruling clears the way for future cases to be brought against the company. T&N said financial implications of the ruling for the company were "minimal" and it did not expect a wave of fresh cases. "We expect about 12 more cases to arise out of this, and we will vigorously contest any that are questionable."

However, a lawyer for some of those with outstanding actions against T&N said T&N might remain vulnerable to future claims as other cases of mesothelioma - an asbestos-related cancer - come to light. Mesothelioma has an incubation period of up to 60 years, the lawyer added. The factory at the centre of the case, J.W. Roberts of Armley in northern England, closed in 1958.

The Court of Appeal upheld the ruling of a High Court judge that T&N was liable to pay £115,000 (£174,800) over two cases in which children contracted mesothelioma after playing near the Roberts factory.

An appeal judge said the High Court had heard evidence of children paying regular visits to the factory's loading bays. "During the course of them, children would jump up and down on the bales," the judge said. "Sometimes the bales would burst open."

T&N's interpretation of the facts had "veered on the ingenious", he said.

The company has spent about £300m in the past 10 years settling compensation claims, mainly in the US. Its shares initially fell 10p in London after news of the appeal decision, but recovered to end down 4p at 168p.

# Financial focus on Latin America

SUBSCRIBE TO THE BANKER TODAY AND YOUR FIRST TWO ISSUES ARE FREE

In the April 96 issue, we will examine the changes taking place in the Brazilian economy and the important restructuring of the banks with institutions merging and radically altering their business and strategies. The report will include interviews with senior bankers and officials and the latest bank results and comprehensive listings. Earlier this year we also reported on Argentina, Mexico and Chile.

In the August 96 issue we will publish the Top 100 Latin American bank listings giving the true picture of banks in Latin America.

Since 1926, The Banker has been read and noted worldwide as the authoritative source of analysis and insight into international banking. Every July we also publish "The Top 1000 World Banks" listings. Scrupulously researched, rigorously analysed and totally independent, the listings give the whole picture on the banking industry worldwide.



THE BANKER

Subscription form for The Banker magazine with fields for name, address, and payment details.

Union Futures and Options Trading advertisement.

Berkeley Futures Limited advertisement.

City Index advertisement.

KNIGHT-RIDDER'S FUTURES MARKET DATAKIT FROM \$570 advertisement.

WANT TO KNOW A SECRET? advertisement.

CITY INDEX advertisement.

FOREX advertisement.

OFFSHORE COMPANIES advertisement.

Petroleum Argus Daily Oil Price Reports advertisement.

MURPACE advertisement.

Market-Eye advertisement.

Comments on today's news section with various advertisements.

LEGAL NOTICES section with court notices.

Handwritten note: صديقا من الاموال



Defence equipment Consortium will compete against Thyssen and Vickers for contract to work with Giat

# GIN joins German bid for transport order

By Bernard...  
Defence Correspondent

GKN, the defence and automotive group, teamed with the German engineering companies Krauss Maffei, M&K/Rheinstahl, and Wegmann, to bid for a £2.5bn (€4.6bn) Anglo-Franco-German battlefield taxi programme. The consortium will compete against an entry by engineering groups Thyssen and Vickers to become an Anglo-German team which will work with France's nominated manufacturer Giat to produce the next generation of battlefield

transport. A winner of the Anglo-German competition is likely to be selected by summer 1997, with a production contract to be awarded a year later. Production is likely to start early in the next century, with all competitors hoping that the project will replace tank and fighting vehicle production workloads which will be then running down.

GKN will need work in its factory at Telford in the English Midlands from 1998 once its order for Warrior Armoured Fighting Vehicles for Kuwait is completed. Vickers will need further orders for factories in

northern England around the year 2000 when it will have completed its order for Challenger 2 tanks for the British Army. Vickers is also pursuing a potential Challenger order from Saudi Arabia.

Britain decided to join the previously Franco-German battlefield taxi programme last month under the threat that it would be excluded from the new Franco-German arms agency if it did not participate in the European Multi-Role Armoured Vehicle programme (MRAV).

MRAV is seen by France and Germany as a way to rationalise the num-

ber of armoured vehicle makers in Europe by bringing them together in common programmes. Europe now manufactures three main battle tanks and armoured personnel carriers against one of each in the US.

The companies hope that their teaming arrangements will solidify into formal joint ventures which might then lead on to full mergers of the companies. However, that goal is some distance away.

In joining the MRAV programme, Britain has had to accept a detailed Franco-German specification for the vehicle. This runs counter to its

recent policy of producing an outline requirement and then asking companies to submit their ideas to a competition.

The UK will be able to propose changes to the design, and will press for competition in as many areas as possible.

France and Germany originally threatened to exclude the UK from the agency last summer when Britain decided to order 2,500 of US Apache tank-busting helicopters rather than buy the Franco-German Tiger. France has since cut the number of Tigers it intends to buy.

# Cruise missiles contract for RAF is worth \$990m

By C...  
Defence Correspondent

The Royal Air Force is looking for a cruise missile which can be fired from its fighters or bombers, fly at least 250km on a planned course, and then deploy a command centre, a guided aircraft shelter or a radar station with pin-point accuracy.

The competition to supply the Conventional Air-launched Stand-Off Missile (Casom) has been one of the most keenly fought procurement projects of recent years. To fill the need, the Ministry of Defence has pushed a very simple outline specification, and then asked companies what they can supply for \$990m (£990m). To save money, the ministry has also asked the companies how the programme might benefit from operation with other com-

Casom will be a "silver bullet" weapon for the RAF: each missile will cost about \$1m and will be used against the most valuable and well-defended targets which will be used in situations where the risk of named aircraft losses is unacceptably high. It is also points to the future direction of ground attack warfare, and companies are keen to show their prowess in the field. Seven teams have put in bids,

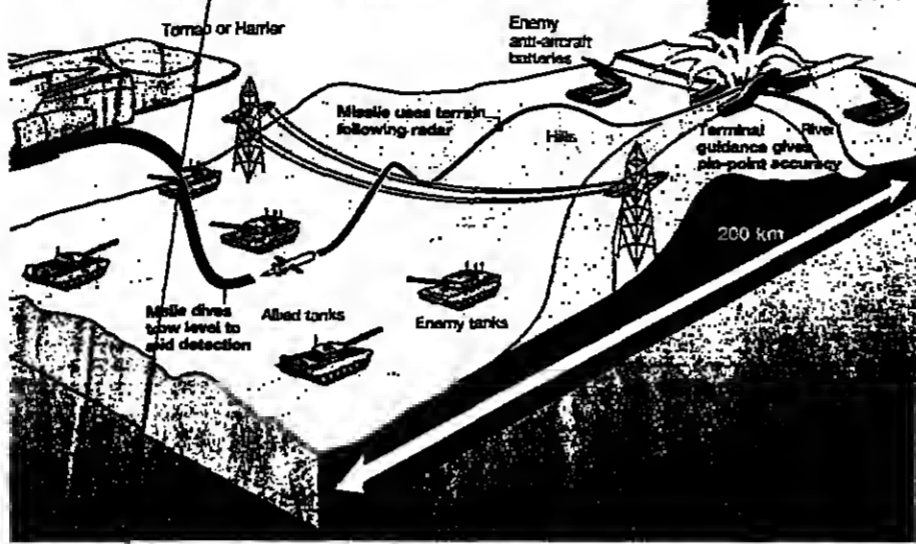
As with many other programmes, the cruise missile competition pitches proven US technology against European ideas in development. Politics also plays a role because one of the bids is pivotal to the consolidation of the European missile industry.

Hughes, the US electronics company, has teamed with Smiths Industries of the UK to offer a slimmed down version of its Tomahawk long-range cruise missile. Tomahawk has many fans in the British defence ministry.

It has also been selected for the Royal Navy recently, and will be fired from submarines to attack targets outside aircraft range. However, Air Hawk, the son-of-Tomahawk being offered in this bid, is expensive and Hughes does not have strong UK credentials.

Two attempts to acquire tank-busting missiles for the Royal Air Force have been cancelled over the past decade because of Treasury cuts, and the defence ministry spent £2.5bn last July on Apache anti-tank helicopters to fulfil a similar job. Officially, the programme remains open to be decided by July. Helicopters are for hand-to-hand sparring while the RAF's Harrier jets supply a ground commander with a heavy punch. The companies bidding to supply missiles have to give different views of how to deliver knock-out blows. Of the five contenders two favour loading a Harrier with

The RAF seeks a cruise missile to attack well-defended targets



despite that, is a very strong contender.

McDonnell Douglas of the US has teamed with Hunting of the UK to offer an evolution of the US Hoot anti-ship missile. Its cry, called Grand Slam, has grown bigger wings and longer range, but is still thought to be lagging behind the Hughes bid. Texas Instruments is the other US entrant offering a version of its new Joint Stand-Off Weapon (JSOW) in collaboration with Shorts of Belfast. The version of JSOW being developed in the US is a gliding guided bomb which does not excite the British ministry. But the programme is designed to produce a motorised version later, and tests of the system have been successfully completed.

Each of the US competitors is holding out the tantalising prospect that, if it is selected, the UK could win work on the US equivalent of Casom, the Joint Air-to-surface Stand-Off

Critics of the Typhoon say that it will be more expensive than the GEC-Marconi contender as a way to kill tanks.

Leading the field for the dispenser solutions is the Hunting Swarm, which was the rival to Brimstone the last time the competition was launched. Swarm uses a mixture of European and US technologies, with Daimler-Benz Aerospace, Boeing and Alliant Techsystems all large suppliers.

One of the few teams to remain from the cruise missile bid is Texas Instruments and Shorts. They are offering a version of the US weapon which they are entering in the UK cruise missile competition.

UK NEWS DIGEST

# European Court 'needs reform'

The UK government, which has been infuriated by several recent defeats in the European Court of Human Rights, said yesterday it wanted reforms in the court's procedures, and more consideration of individual countries' traditions. The proposals were published only days after the Strasbourg court overturned the conviction of a British journalist, Mr Bill Goodwin, who was found guilty of contempt of court in Britain after he refused to name the sources for an article. The government said it was inviting comments from fellow members of the Council of Europe on reforms to the existing tribunal and the proposed "11th protocol" court which will speed up the consideration of alleged human rights abuses.

A Foreign Office paper said "differing circumstances and traditions", particularly in relation moral or social issues, should be taken into account in enforcing the European Convention on Human Rights. It added that more weight should be given to the decisions of local democratic institutions and tribunals. Other British proposals include prior notice of candidates to be judges, to allow time for objections, and a requirement that the court give earlier warning of its "main areas of concern" in cases. "The government has been concerned about some recent judgments of the court and it would like to see certain changes to promote fairness," the Foreign Office said.

Bruce Clark, Diplomatic Correspondent

# EU overtakes Far East

Applications to British universities from other European Union nations rose by one-third last year, while the number accepted increased by almost 40 per cent, according to the UK Universities and Colleges Admissions Service. They accounted for almost half of the 3.5 per cent rise in applications last year, up 14,325 to 415,442. The figures reflect attempts by higher education to expand its market, and suggest that students from mainland Europe are taking more advantage of the mobility offered by the EU. A total of 25,520 people applied from the EU, excluding the UK, putting it significantly ahead of the Far East, where British universities have traditionally had strong links. A total of 12,979 applicants came from this area, including 5,073 from Malaysia. There was also strong interest from Africa, including 653 applicants from Kenya and 653 from Nigeria.

John Authers, Public Policy Staff

# Many Names reject offer

The Gooda Walker Action Group, one of the largest and most influential groups representing loss-making Names at Lloyd's of London, said yesterday that 65 per cent of its members had voted to reject the \$425bn out-of-court settlement being put to the market's 34,000 investors. So far 1,069 members had said in a questionnaire that they would reject the offer while 553 were ready to accept. Mr Michael Deeny, chairman of the group, said similar figures were emerging from other groups of litigating Names. "They are being offered much less than they can recover through the courts," he said.

Jim Kelly, Financial Staff

**FT**  
FINANCIAL TIMES  
Financial Publishing

**Providing essential information and objective analysis for the global financial industry**

The following authoritative reports in banking and financial services are now available from FT Financial Publishing. These reports, priced between £250 and £350, represent superb value for those requiring the latest reliable research, information and forecasts in their industry sectors.

For further information on any of these titles, please tick the relevant boxes.

**BANKING**  
Banking and Finance in India  
Banking and Finance in South America  
Banking in China  
Banking in the EU and Switzerland  
Banking in the Far East  
Banking in the Middle East  
China's Financial Markets  
Directory of Banking and Finance in East and Central Europe  
European Remittance 1996  
FT Global Derivatives Reports 1996  
Investment Regulation in Europe  
Issues in European Banking  
Profitability for European Banks  
FT Guide to Global Central Banks  
European Treasury Management  
Pension Fund Investment in Europe  
FT Pensions Books 1996  
Who Owns What in World Banking

**FINANCIAL SERVICES**  
European Retail Investment  
FT Unit Trust Year Book 1996  
Global Custody  
Non-Financial Organisations in Financial Services  
Privatisation and Demutualisation in European Financial Sectors  
Risk Management in Financial Institutions in Europe  
Selling Financial Services in Europe  
Systemic Risk Facing the World's Financial Institutions  
The Future of the UK Financial Services Industry  
UK Institutional Mutual Funds  
Mergers and Acquisitions in European Financial Services  
Current Research in Finance  
Virtual Financial Services

**IT IN BANKING AND FINANCE**  
Banking Technology as a Competitive Weapon  
Financial Technology  
IT in the Financial Services Industry  
Multimedia - Implications for Financial Services  
Payment Cards in Europe  
Prepayment Cards

**BLOCK CAPTION PLEASE**  
Name: Mr/Ms/Ms  
Job Title/Position  
Company Name  
Address  
Postcode/Zipcode  
Telephone  
Fax  
Nature of Business: 00040

Please return to Rachel Wood,  
FT Financial Publishing, 5th Floor,  
140 Tottenham Court Road, London W1P 0LL, UK.  
Tel: +44 (0) 171 896 2290 Fax: +44 (0) 171 896 2274

What's the world coming to?

intel pentium HP HEWLETT PACKARD  
HP PCs GIVE YOU ROOM TO THINK

In just the last 6 months, "MILITARY PROCUREMENT INTERNATIONAL" has researched & published 38 in-depth procurement news stories, 192 new requirements & potential contracts, 156 notifications of future business, 44 national defence budget reports, 249 contracts awarded, covering 72 countries - new business opportunities for 168 different product categories worth well in excess of US\$95,000 million in defence export sales.

Do you know of any other global contracts bulletin providing such a wealth of defence news and market intelligence... delivered to your desk, 24 issues for £230 per year?

For further subscription details, call for a brochure to:

Perception Publishing International Ltd., P.O. Box 270, Marlborough, Wiltshire, SN8 3UD, UK  
Tel: +44 (0) 1672 870670 Fax: +44 (0) 1672 870426

**LEGAL NOTICES**

**WATERLOO PLC**  
Formerly Secretary Pacific Ltd/Whitby Plc  
Company No: 1817740  
Notice is hereby given, pursuant to Rules 4.1(2)(a) and 11.2 of the Insolvency Rules 1986, that the Liquidator of the above Company proposes to make a distribution to the creditors within four months after 30 April 1996. Creditors are required to submit full details of their claims and their names and addresses to the Liquidator, Messrs Howard Odfield, RMAO, PO Box 730, 20 Farnborough Street, London EC4A 3DF on or before Tuesday 30 April 1996, which is the last day for proving claims. Notice is also given that the Liquidator proposes to make final distributions and that such distributions will be made without regard to any claims not made by the date mentioned here. The Liquidator believes that the Company has no unproved creditors.  
R H Odfield - Liquidator Dated 26 March 1996

**LEGAL NOTICES**

**WATERLOO PLC**  
Formerly Secretary Pacific Ltd/Whitby Plc  
Company No: 1817740  
Notice is hereby given that the Creditors of the above named Company are required on or before 30 May 1996 to send in full details of their claims and their names and addresses to the Liquidator, Messrs Howard Odfield, RMAO, PO Box 730, 20 Farnborough Street, London EC4A 3DF on or before Tuesday 30 April 1996, which is the last day for proving claims. Notice is also given that the Liquidator proposes to make final distributions and that such distributions will be made without regard to any claims not made by the date mentioned here. The Liquidator believes that the Company has no unproved creditors.  
R H Odfield - Liquidator Dated 26 March 1996

**ESCP**  
Ecole Supérieure de Commerce de Paris

**FRANCO - GERMAN CAREER FORUM**

Are you looking for top-notch management students with an international profile and a dual French and German background?

Meet them at  
« ESCP Forum, Espace Outre-Rhin »  
on  
**April 4, 1996**

Please contact the ESCP Outre-Rhin student society

Ecole Supérieure de Commerce de Paris  
Association « Outre-Rhin »  
79, avenue de la République  
75543 Paris Cedex 11  
Tél. 33-1 49 23 20 22

**CHAMBRE DE COMMERCE ET D'INDUSTRIE DE PARIS**

سكوا من الأصلي



### RETAIL PRODUCT DIRECTORS

LOANS • SAVINGS • MORTGAGES • MONEY TRANSMISSION

EDINBURGH

HIGHLY COMPETITIVE PACKAGES

- A top 50 UK quoted company with an excellent growth record; the Royal Bank of Scotland is one of the best performing UK financial services groups, highly regarded for its innovative approach and distinctive style.
- Located within the core, growing retail banking business these new roles have been created to facilitate a radical, fresh marketing approach to a range of critical product areas. They offer excellent scope to make considerable impact on short and long term business performance.
- Key accountabilities will be to lead a product group with a challenging mandate including creating and implementing aggressive marketing strategies, developing and launching new, and managing and redefining existing products, with full accountability for pricing and overall profitability.

- Experienced across the full marketing mix within retail financial services, candidates should be graduates, energetic, intellectually strong, instinctively commercial, adept at thinking around problems and, essentially solutions driven.
- Naturally curious about customer and competitor behaviour, keen to shape the future rather than merely react to the present, they will be able to frame the questions, digest the feedback, formulate innovative strategies and deliver the anticipated business results.
- Collegiate in style, candidates will deliver their own bottom line contributions but be supportive of colleagues and proactive in cross-fertilising ideas. Additionally they will be enlightened people managers capable of creating and enthusing high performing teams.



Please apply in writing quoting reference 1112FT with full career and salary details to:  
 Fluff Whitehead  
 Whitehead Selection Limited  
 11 Finsbury Street, London W1K 6BB  
 Tel: 0171 250 2043  
<http://www.ghact.co.uk/whitehead>



### Fund Manager Pacific Basin (Ex Japan) City

Our client is the fund management subsidiary of a major British financial institution. Managing assets in excess of £14 billion both for group companies and for external clients the company is gaining increasing recognition for the excellence of its investment performance.

In addition to well developed analytical skills they must demonstrate good communication and organisational abilities and show initiative whilst being a good team player. IIMR qualification would be advantageous but not mandatory.

An opportunity has arisen for an individual to join the Pacific Basin (ex Japan) team. The role will involve participation in the regional asset allocation decisions, market and company research as well as responsibility for a number of portfolios invested across the region. The successful candidate will also contribute to marketing activity.

This position offers excellent career development opportunities. Remuneration will combine a highly competitive salary with a range of other benefits including an attractive bonus scheme.

To apply, please write in confidence, enclosing your CV quoting reference 1144, to Andrew Thompson at FLA Ltd, 211 Piccadilly, London W1V 9LD. Tel: 0171 917 2930; Fax: 0171 895 1353.



FLA  
 FINANCIAL LEASING AND FINANCIAL SERVICES

### HEAD OF NEW ZEALAND EQUITIES

Leading Fund Manager seeks a key person with a business development and strategic leadership focus.

AMP Investments (NZ) Limited is offering a unique opportunity to be responsible for the management and performance of a \$1.3 billion equities portfolio.

The position is based in Wellington, reports directly to the Managing Director and is an integral part of an international wholesale funds management operations.

You will need strong analytical and communication skills, be capable of bringing fresh ideas and innovative solutions to complex investment management issues and will have relevant experience in the field of equities research and management. You will also be able to work in a flat

management structure, be capable of making a contribution to the strategic direction of the business and manage a proactive innovative team of equity specialists.

This is certainly one of the biggest and the most sought after equities management positions in the country.

If you want the opportunity to manage the largest equities portfolio in the country, please respond in confidence to David Conning, Human Resources Manager, AMP Investments (NZ) Limited, PO Box 3764, Wellington, New Zealand by 12 April 1996, phone 64-4-498 8149, fax 64-4-471 2290. All enquiries will be dealt with on a strictly confidential basis.



The Coface Group is a leader in international credit risk management, active in credit insurance, credit information and debt collection in more than 30 countries with consolidated turnover of £350 million and net profit in the range of £25 million. Being French-owned the Group's Head Office is based in La Defense, Paris.

Coface LBF, the UK subsidiary is one of the three top UK credit insurers. Due to the Group's expansion, an opportunity is available to work alongside the UK General Manager with the responsibility to develop new segments of the market and expand on new opportunities.

#### The Position

- To introduce marketing plans throughout the organisation and implement them.
- To design special facilities to enhance existing distribution arrangements.
- To assume full responsibility for these schemes, facilitate change and drive the process.

#### The Requirements

- Fluency in English. Other languages, especially French advantageous.
- Experience in selling International business services to Finance Directors.
- Previous success in project management in a complex creative environment.
- Desire to shape a business within the context of a large International Group.

Please send your CV with current salary details to: Karla Dalton, K/F Associates.

252 Regent Street, London W1R 6HL, quoting ref: 90018/A. Alternatively by e-mail to [cv@kfaeurope.com](mailto:cv@kfaeurope.com)

Internet Home Page: <http://www.kfaeurope.com/kfaeurope/>

**K/F ASSOCIATES**

FORN/FERRY CASE/ORDAN INTERNATIONAL

### Corporate Finance Executive Specialist team – South Africa

London

As one of the leading merchant banks advising UK and international groups on a full range of corporate finance transactions, we have an enviable reputation for the quality of our advice. We are now seeking an exceptional individual to join a specialist team, based in London, focussing on opportunities in South Africa, where we already have an outstanding track record and a very successful local office involved in corporate, project and venture capital finance.

Your key responsibilities will include generating and researching original ideas for clients in the UK and South Africa, using analytical and commercial skills to develop and present these. You will also provide support to our transaction execution teams.

Opportunities for career development within corporate finance in London and South Africa are excellent.

Competitive salary + benefits

The successful applicant will be energetic, educated to graduate/MBA level or with a professional qualification in accountancy and will have three to four years' experience in finance or consultancy, ideally including exposure to corporate finance transactions. Your knowledge of the South African marketplace will be thorough, your financial/analytical, interpersonal and presentation skills will be excellent and you will be able to demonstrate an awareness of commercial issues.

To apply, please write enclosing a CV and details of your current remuneration package, to: Mrs. C. M. Lambert, Assistant Director, Hambros Bank Limited, 41 Tower Hill, London EC3N 4HA. Tel: 0171-480 5000.



### GUINNESS FLIGHT

#### Far East Equities

Guinness Flight is an award winning fund management company recognised for skilled fund management and innovative product development. The Company has grown significantly over recent years, a trend which is expected to continue, and is now one of the leading international fund management groups.

Strong and consistent performance in Pacific Basin assets under management have led to significant growth in existing funds, giving rise to new and exciting investment opportunities. In order to maintain our high quality investment performance, and to enable us to develop further, we are seeking to recruit the following:

#### Fund Manager – Japan

Candidates should have a minimum of 3-5 years fund management experience within a successful Japanese investment team. The position at Guinness Flight would ideally suit an individual who now feels ready to take more direct investment management responsibility. Candidates should also be recognised under the IMRO regulations as Threshold Competent, preferably with the IIMR, or equivalent, qualification.

#### Junior Fund Manager/Analyst – Asia (ex Japan)

The ideal candidate will be a graduate with 2-4 years experience at a leading investment firm, central bank or international institution, preferably in Far Eastern markets, but consideration will be given to exceptional candidates suitably qualified in other stock markets. The role will include analysing listed companies, making recommendations on stock selection, reporting on economic and financial indicators, and participating in the investment management decision making process. The successful candidate should be studying for, or have gained, the IIMR qualification.

Please reply in writing with a full CV to: Mrs Jane Cole, Personnel Management, Guinness Flight Global Asset Management Limited, Lighterman's Court, 5 Gainsford Street, Tower Bridge, London SE1 2NE. The closing date for applications is Friday 19th April 1996.

Issued by Guinness Flight Global Asset Management Limited, regulated by IMRO and the Personal Investment Authority.

### SALES INTERNATIONAL BANKING

London office of major US information group is seeking aggressive, experienced Sales Representatives to market software solutions and CD-ROM databases to banks and financial services companies in Europe, Eastern Europe and the Middle East. The candidate must have a successful track record in closing consultative sales of high-value items, a high level of energy and organisational skills and an ability to handle multiple tasks. Extensive travel will be required. Fluency in English plus one or more European languages is preferred. Experience of banking and bank analysis will be an advantage. Salary will be commensurate with experience; package minimum 50K with uncapped potential for far greater earnings.

For CV, compensation history and covering letter to: BankStar on +44 177 404 5455 or mail to 56 Kingsway, London WC2B 6DX.

### Emerging Market Analyst Excellent Package

Our client is a successful Fund Manager with involvement in Emerging Markets for institutional clients. Due to increased volumes, a need has arisen for a further analyst to join the team.

#### Responsibilities will be:

- To liaise with Investment Managers and subsequently to provide comprehensive country research.
- To assist Investment Managers with the analysis of industries and individual securities.
- To produce weekly political and economic updates on assigned markets.
- Frequent travel to Eastern Europe.

#### The ideal candidate is likely to have:

- A numerate degree and MBA.
- Strong analytical skills and PC experience.
- Excellent interpersonal and team skills.
- Previous experience of research for Eastern European Emerging Markets Funds.
- Fluency in Eastern European languages (including Russian) as well as Spanish and English and excellent written communication skills.
- Experience of working in Eastern Europe or Russia preferred.
- Natural curiosity, tenacity and high energy levels.

Opportunities for ambitious candidates are superb in this rapidly expanding organisation. As a dedicated analyst you will be able to gain immediate credibility with peers and senior colleagues, displaying self-confidence and maturity. In a company which recognises that people are a critical resource, remuneration will be highly competitive.

Interested candidates should contact: Teresa Anworthy at BBM Selection, enclosing a full CV, which includes contact telephone numbers. All applications will be treated in the strictest confidence.

76, Watling Street, London EC4M 9BJ



Tel: 0171-248 3653 Fax: 0171-248 2814

### Opportunities in European Commercial Real Estate new business development.

Attractive Package

London and Paris

General Electric is a diversified technology, manufacturing and services company employing over a quarter of a million people worldwide and generating revenues of \$70 billion. GE Capital, one of the largest and most successful financial services companies in the world, has 25 core businesses, one of which is Commercial Real Estate Financing & Services (CREFS). This business is a world leader in investment property, financing and investment lending and is now embarking on a major expansion programme throughout Europe.

We are seeking people who can provide our new business team with professional underwriting and marketing support. One position is based in London and will focus on the UK market; the others are based in London or Paris and will concentrate on new business development in France, Scandinavia and the UK.

You will be responsible for analysing the financial viability of proposed investment deals, assisting in new product development by evaluating markets,

returns and sensitivity analysis, and preparing investment and financing proposals. You can also expect to be involved in information-intensive presentations and marketing pitches and will regularly liaise with customers and external professionals.

We are looking for people with a strong financial background, a highly analytical mind, and excellent PC and financial modelling skills. With a customer service focus, you will need to be a self-starter yet able to work as part of a team to achieve common goals. The European position also calls for fluency in French.

The remuneration package will reflect the decisive contribution we expect you to make to our new business development. We are determined to appoint individuals who have the clear potential to grow with us and take on more senior roles either within CREFS or other GE businesses. Please write with full cv, including details of current salary, to our advising consultants, Stafford Long & Partners Recruitment Limited, 30-32 Whitfield Street, London W1P 6HR, quoting reference: FT/3/96.



GE is an equal opportunity employer

GE Capital Europe

Not associated with the English & Welsh Bank.







COMMENT & ANALYSIS

FINANCIAL TIMES
Number One Southwark Bridge, London SE1 9HL
Tel: +44 171-873 3000 Telex: 922186 Fax: +44 171-407 5700
Wednesday April 3 1996

The EMI, Emu and the G7

Yesterday, the European Monetary Institute (EMI), embryo of a future European Central Bank, delivered its annual report for 1995. Yesterday also, the conference of the group of seven leading industrial countries on jobs reached its conclusion. The first reminded the world that European monetary union (Emu) remains likely. The second should remind Europe that it lacks the flexibility needed to make Emu work.

Contrary to the widespread scepticism, particularly in the UK, Emu may well happen in 1999. This is so notwithstanding the EMI's own concerns, particularly over fiscal performance, which it labels "the weakest point of convergence". Since only one country - and that Luxembourg - unambiguously met the Maastricht treaty's criteria for fiscal deficits and debt in 1995, this worry is hardly surprising. The EMI underlines the point by asserting that "in the assessment of the degree of convergence achieved, the individual criteria are to be interpreted and applied in a strict manner. The EMI Council intends to express its views independently."

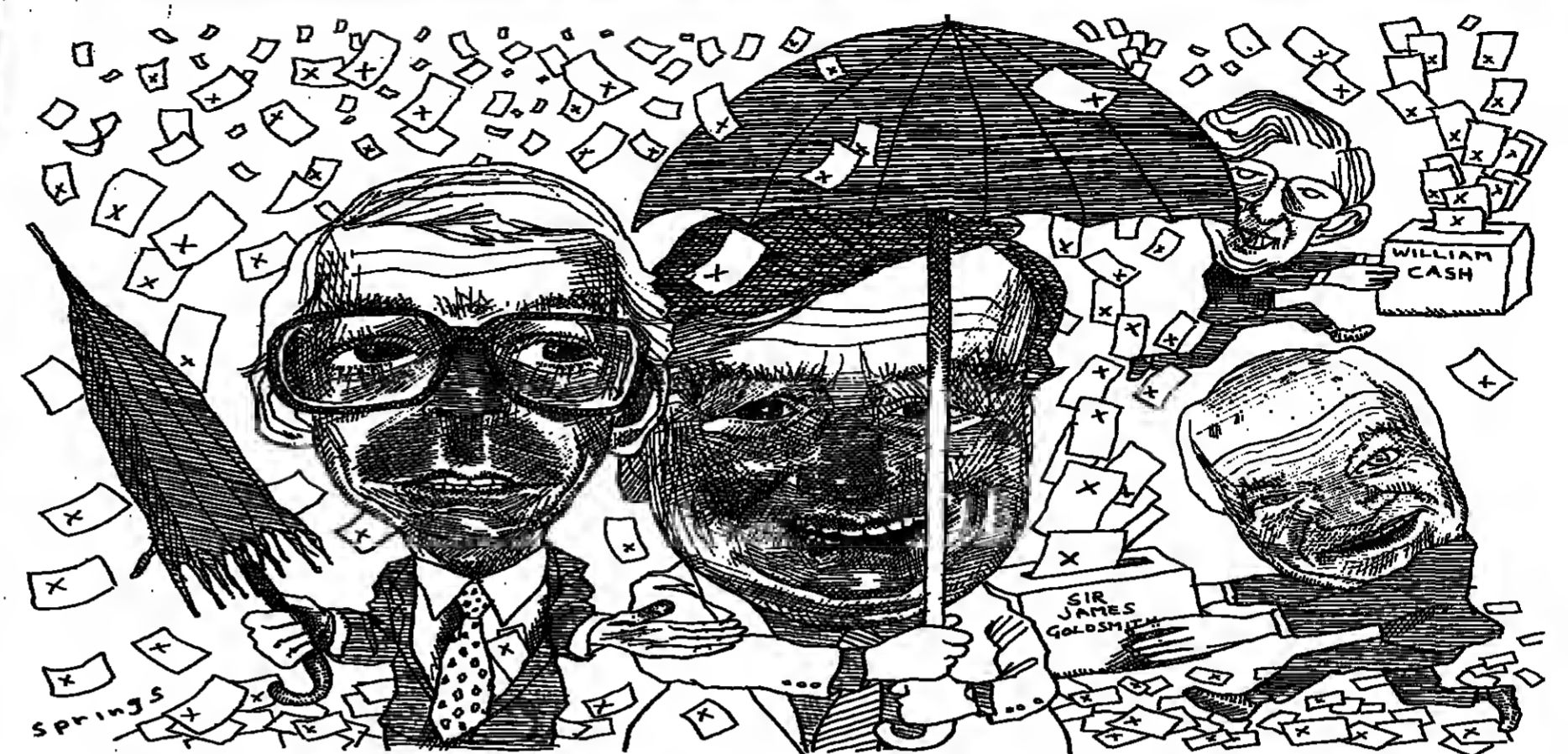
Since the EMI represents the central bank governors, these warnings have some significance. But they are not decisive. The decision on whether or not Emu is to begin in 1999 - and who will then be in it - is a political one.
Fears of failure
The political leaders will be pushed towards saying yes in 1998, when the first members of Emu have to be chosen, by fears of too visible a failure, by the desire to achieve deeper European integration, by the belief that a single market requires a single currency, by German worries about the possibility of still more devaluations against the D-Mark and by French determination to gain a seat at the monetary policy table. The worries of conservative central bankers are, in the event, rather likely to be brushed aside.

The road to Singapore

A carefully worded communiqué managed yesterday in Lille to paper over a threatened split between G7 employment ministers over US and French proposals that future trade agreements contain provisions on labour standards. But more than deft last-minute drafting will be needed to avert a much more damaging row if industrialised powers renew these demands at the World Trade Organisation's ministerial meeting in December in Singapore.

Developing countries, which make up most of the organisation's members, object that no clear link has been established between social conditions and trade, and no coherent case made for examining the issue in the WTO. On these points they are unquestionably right. They suspect, also probably with good reason, that the most vocal advocates of action on trade and labour standards are less interested in keeping their markets open than in seeking pretext to close them.

Developing countries' resentment also reflects a broader concern that the west is trying to stack the WTO's workload with new issues that they perceive to be either marginal or menacing to their own interests. The US, for example, wants the Singapore meeting to tackle corporate bribery and corruption. As well as calling for a debate on labour standards, Sir Leon Brittan, the European Union's trade commissioner, wants the agenda to include global investment rules and competition policy.



Referendum for a rainy day

Robert Peston answers key questions about the dispute in the UK over whether the people should vote on a single European currency

Referendums and European economic and monetary union are not concepts which excite the British electorate. But they excite near-hysteria in the Tory party and mild panic in the ranks of Labour.
The debate over whether the government should commit itself to holding a plebiscite on sterling's participation in a single European currency has come perilously close to bringing down the government.
The cabinet, however, after lengthy and bitter arguments, is expected today to promise a referendum. John Major, the prime minister, apparently succeeded yesterday in overcoming the deep-seated objections of Kenneth Clarke, the chancellor, who had been threatening to resign over the issue. Had he gone, Major's departure would probably have followed shortly afterwards.

Why all the fuss about a referendum?
The single currency issue is the most hotly debated in the Commons. Tory and Labour Eurosceptics fear that if sterling participated in a single currency, the British government's ability to manage the domestic economy would be severely curtailed. All the important decisions, they say, would be taken by a new European Central Bank and European finance ministers acting collectively.
Monetary union would also involve European countries giving up their respective currencies in favour of a new European unit, the infelicitously named euro. When Eurosceptics address the electorate, their most resonant argument is that no British patriot wants to give up the pound sterling for such a trashy Euro-bauble.
The counter-argument from the Tory left and Labour right is that the UK would be permanently consigned to the status of a second division economic power if France and Germany merged their currencies, but sterling remained outside.

When would a referendum take place?
Crucially, the cabinet is not deciding to hold a referendum immediately; it is expected to make a commitment to do so if a future Tory cabinet ever decides to participate in monetary union.
It would not take place until after the general election due by the spring of 1997, since under the monetary union timetable, those countries wishing to join a single currency have to signal their interest only at the beginning of 1998.
That implies that the UK would hold a referendum next year. However, there is doubt that monetary union will take place on schedule, so it may not become a real choice for the UK until the next century.
So who in the government wants a referendum?
First and foremost, the prime minister.

Why is the chancellor so opposed to a referendum and what is this about European salami?
Clarke looks at the constitutional implications in a different way. He argues that the sovereignty of parliament would be undermined by submitting the monetary union decision to popular assent.
But at the root of his reservations are party political concerns. First he fears that rather than stop the battle between the sceptics and pro-Europeans, a referendum pledge would exacerbate hostilities.
"The referendum campaign would begin the moment the commitment is made," said one of his close ministerial colleagues. "The idea that the Eurosceptics would sit on their hands for 18 months is absurd."
His most fundamental objection relates to "European salami". The dwindling band of pro-Europeans in the cabinet, of whom Mr Clarke is the most committed, constantly reiterate that the Eurosceptics have captured the government "salami slice by salami slice". The chancellor's position is that a referendum pledge would be a "salami slice too far".
So strongly does he believe this that he has been threatening to resign.

referendum pledge, but Gordon Brown, the shadow chancellor, is strongly opposed. Brown fears it would undermine the party's pro-European image.
So Labour has a compromise position: it would only take sterling into a single currency if the decision had been ratified either at a general election or in a referendum. Only the Liberal Democrats are categorically in favour of a referendum.

So will Clarke resign?
Probably not, though it cannot be ruled out. Ministers believe he has been placated over the past two days by the prime minister, with the offer of a significant concession.
The chancellor feared that during a campaign in the weeks before a referendum, ministers would tear each others' eyes out over this most controversial of issues. He remembers with a shudder the bitter dispute which split the 1975 Labour cabinet before the referendum on European Community membership.
Major has therefore decided that if the cabinet were to decide to enter a single currency, all ministers would be required to abide by the convention of collective cabinet responsibility, and could not therefore argue against the currency in a referendum campaign.
However, that does not mean victory for the pro-Europeans: a Tory government would probably never make the decision to join anyway, since some of those opposed to participation - probably half the cabinet - would quit rather than sign up.

OBSERVER

A match for mad cows

Hard work brings its own rewards, though not, it seems, for Gerry Kiely, press spokesman for Franz Fischler, the EU's agriculture commissioner. Kiely has been a great boon to Fischler, and has been pressing to leave the job - tough enough, even without mad cows - for quieter pastures in Washington. His has his eye on the post of EU agriculture attaché.
Just weeks before the onset of media-mad-bovine-syndrome, Fischler ordered him to stay put - a real stroke of luck, for Fischler. Single-handedly he mastered - some say made up - the Commission's propaganda offensive during the emergency's early days.
Some even believe Fischler should have left Kiely in charge; he certainly knows his patch well enough to be able to speak his commissioner's mind, even before the boss himself knows what's in it. Fischler's first public appearance on BSE early last week was a public relations disaster. He seemed to announce the worldwide ban on British beef as a fait accompli, when in fact the Commission had still to decide.
The son of a farmer, Kiely cut his teeth on two previous farm commissioner jobs, and survived major crises such as the controversial

Chris stalls

When one Chris goes, can the other be far behind?
The South African financial rumour mill, fuelled by the resignation of finance minister Chris Liebenberg, is now busy speculating about the future of Chris Stals, governor of the Reserve Bank. The two had worked harmoniously together, and their speeches often sounded as though they had the same author.
But with Liebenberg gone, Stals' relationship with the new finance minister, Trevor Manuel, is certain to be less smooth. Manuel, the first ANC man to hold the post, is a feisty politician, and very different from the urbane, self-effacing, apolitical banker who preceded him. His first budget, just under a year's time, is unlikely to be heard in the same respectful silence that greeted the two presented by Liebenberg, during which several MPs dozed off.
Manuel doesn't share Stals' view that the battle against inflation, successfully waged over

Push-button panic

Fed up with mobile phones ceaselessly interrupting your otherwise placid existence? A minor problem, compared with that facing officers in the conscript Israeli army.
They're worried that the ubiquitous cell-phone - almost all recruits in the armoured corps have one, thoughtfully provided by their anxious parents - is ruining their killer instinct. "Parents equip them with cell-phones and they turn into pathetic soldiers," says one commander.
But progress has been made. At least they can no longer use them while on duty, putting a stop to what happened some time ago, when some squadrons in Lebanon called an Israeli restaurant for pizza, then drove to the border to pick it up.

Deep-fried pitch

Hot dogs, peanuts and beer are what you associate with American baseball. Yet business brains in the sporting world will try anything to bring money out of their fans. It is to this end that supporters of the San Francisco Giants baseball team could soon find themselves testing the outer limits of ballpark cuisine.
When the season opens at the Giants' Candlestick Park on April 12, fans are expected to be able to order gourmet dishes such as grilled ahi tuna, smoky prime-cut pork and tomatoes, seared ancho-chipotle chicken, or sweet corn and tomatoes in a mild cumin broth.
Twenty-three new dishes have been proposed for the new season, costing \$3.50 to \$6.75. These include old favourites in a new and sexy guise, such as macho nachos. Fans tired of beer may choose instead a glass of chardonnay or cabernet at \$6, or a glass of Guinness pub draught at \$5.75.
Call me an old red-neck, but it all sounds a mile precious.

100 years ago

French foreign policy
The first Order of the Day in the Senate was a notice of interpellation on the foreign policy of the Government. M. Biscail moved the adjournment of the interpellations until after the holiday on the ground that, while a vote of confidence was not necessary to the Ministry, a hostile vote would weaken the Ministry in the conduct of foreign affairs. The motion for adjournment was rejected by 159 against 112.

50 years ago

World food shortage
Steps leading to the "present crisis in the world's food supplies" are set out in a British government paper issued yesterday. No early solution to the wheat shortage can be expected. Although some recovery in Europe is likely next season, and a repetition of the severe droughts of 1945-46 is improbable, nearly half the exportable supply in 1945-46 represented stocks accumulated in exporting countries during the war years. These are now down to the pre-war level. The shortage of rice is acute as the shortage of wheat, and supplies are entirely inadequate to meet the needs of eastern countries where rice is the staple food.

Rubenesque

Rubens Ricupero, Brazil's former finance minister who now runs the UN Conference on Trade and Development (Unctad), wants to trim the fat from an organisation long accused of being flabby. Maybe he's going too far.
A questionnaire distributed at an Unctad seminar in Geneva this week invited comments not just on the quality of the speeches but also "the size of participants".

SHEERFRAME Specified Worldwide L.B. Plastics Limited Tel: 01773 852311

FINANCIAL TIMES

Wednesday April 3 1996

Singer & Friedlander Investment Funds 0500 62 62 26

British PM wins battle over single currency vote

By Robert Peston in London Mr John Major, the UK prime minister, is convinced that he has overcome his chancellor's objections to a referendum on joining the European single currency and will this morning urge his cabinet to make a commitment on the controversial issue.

stances. Eurosceptic ministers would not be able to argue against a single currency during the referendum campaign. The prime minister held talks with Mr Clarke over the past two days and yesterday became convinced he would not resign.

in, although one said: "He is not a quitter, it is not in his nature." Only days ago, the chancellor had indicated to them that the concession on gagging ministers would not satisfy him.

NBC plans to aim TV channels at European PC users

By Raymond Snoddy NBC, the US broadcasting group, is planning to launch a number of television channels aimed at computer users in European markets.

Broadcasting behemoth

Yesterday's merger between Compagnie Luxembourgeoise de Télédiffusion (CLT) and Bertelsmann's television subsidiary Ufa is being billed as Europe's answer to last year's mega-media mergers in the US.

THE LEX COLUMN

Broadcasting behemoth



Deutsche Telekom is able to contemplate such investments while weighed down by DM100bn in net debt. Moreover the deal's logic would apply not just to Deutsche Telekom but to others, such as AT&T, which are interested in building their presence in the UK telecoms market.

Beijing

Continued from Page 1 associates, and embezzling and squandering funds. Ta Kung Pao reported that the State Auditing Administration had found a massive diversion of funds by Mr Wang, who allegedly killed himself last April while under investigation for corruption.

Bertelsmann deal to create Europe's biggest broadcaster

By Michael Lindemann in Bonn

Bertelsmann, one of the world's largest media groups, is to form a joint venture with the Luxembourg-based Compagnie Luxembourgeoise de Télédiffusion (CLT), to create Europe's biggest broadcaster.

Super RTL and Vox - all German-based television channels. In addition it would have stakes in RTL 4 and 5 in the Netherlands, M6 and TMC in France and Channel 5 in the UK.

The concept is being worked on by NBC at the moment because Microsoft is preoccupied with the launch of its on-line news service - also a joint venture with NBC - in July to coincide with the Atlanta Olympics.

The on-line channel is being launched with a conventional cable channel alongside the interactive on-line service. The plan is to have a considerable degree of cross-promotion between the two channels.

But the ITC believes there is a strong argument for exceptions to be made for specialist services - such as a channel for computer users. Such channels would also be blocked under the current European Advertising Directive - which does allow a dedicated home shopping channel.

Germany. In response, both Mercedes and BMW have started to move down-market. Unlike Mercedes, which is taking advantage of its brand strength and developing its own small cars, BMW bought a volume car maker in Rover. It now faces the huge managerial task of integrating the two companies while developing distinct brand names.

UK telecoms Deutsche Telekom's motto seems to be: "In for a penny, in for a pound". The German state-owned group is not only examining the possibility of buying Mercury Communications in the event that its parent, Cable & Wireless, merges with BT, it is also thinking of buying Videotron, the UK cable communications operator which is up for sale.

UK brewing Big is beautiful in brewing. Bass looks set to emerge from the latest wave of UK consolidation as by far the biggest. Potential economies of scale were shown by Scottish & Newcastle's £75m cost benefits from integrating Courage, Carlsberg-Tetley, just behind Courage in volume terms, should offer similar savings.

Road to Emu

Continued from Page 1 importance in paving the way towards monetary union. Mr Lafalussy said the EMI was on schedule to specify, by the end of the year, the regulatory and organisational framework for the central banking system that will run Emu's monetary policy.

Issued by Morgan Grenfell & Co. Limited, regulated by The Securities and Futures Authority

Templeton Russian and Eastern European Debt Fund

Placing of 3,386,581 Shares at up to US\$15.60 per Share

Investment Manager Templeton Investment Management Limited Structuring Agent Lever-Murphy Group Russian Depository Rosvneshtorgbank (Bank for Foreign Trade of the Russian Federation)

Lead Placing Agent Morgan Grenfell & Co. Limited US Placing Agent Deutsche Morgan Grenfell/C. J. Lawrence Inc.

Deutsche Morgan Grenfell

Weather guide section including Europe today, five-day forecast, and today's temperatures for various cities.

Handwritten Arabic text: صديقا من الامم







COMPANIES AND FINANCE: EUROPE

Soporcel plans to invest Es60bn as earnings surge

By Peter Wise in Lisbon

Ario Wiggins Appleton, the Anglo-French paper group, is to support a Es60bn (\$892m) investment in a new paper machine to integrate pulp production at Soporcel, Portugal's second biggest pulp and paper company.

Soporcel, announcing a threefold increase in net profits last year to Es11.2bn, said yesterday AWA had made a strategic decision not to sell its 43.3 per cent stake in the Portuguese group and would back plans to buy a second machine to make uncoated paper by 2000.

Doubt had earlier been cast on AWA's retaining its holding in state-controlled Soporcel, amid a planned reorganisation of the group's European manufacturing operations.

Mr Alvaro Barreto, Soporcel chairman, said the second machine would enable the company to integrate all of a projected annual production of 650,000 tonnes of bleached eucalyptus pulp into its paper making operations.

Full integration would place Soporcel among Europe's top three office paper producers and was an essential step to remaining competitive as the

production of similar short fibre pulp at much lower costs expanded in Brazil and Indonesia, Mr Barreto said.

Soporcel's sales rose 31 per cent to Es76bn last year from Es53.3bn in 1994, due mainly to a 47 per cent increase in the average price of eucalyptus pulp. Paper prices rose about 30 per cent. However, volume sales of pulp and paper fell slightly to 220,000 tonnes and 258,000 tonnes, respectively.

The group, forecasting a drop in pulp sales to 210,000 tonnes this year, said the average pulp price would be substantially below the 1995 level this year. Prices started falling sharply in the last quarter of 1995 - largely because paper companies began destocking - dropping from a high of Ecu730 a tonne last August to about Ecu350 at present.

Net profit grew from Es3.5bn to Es11.2bn and operating profits increased from Es10.3bn to Es16.1bn last year. Operating costs rose from Es36.5bn to Es43.8bn as raw material costs increased and the group applied maximum depreciation rates on assets due to full use of production capacity.

Cash flow increased from Es12.6bn to Es25.5bn. Much of this was used to lower the group's debt, which fell from Es73.5bn in 1994 to Es57.2bn. Financial costs fell from Es7bn to Es5bn.

BT/C&W merger talks raise concerns in Germany

The UK operators have competing interests in the country's telecoms sector, writes Michael Lindemann

Talks between British Telecommunications and Cable and Wireless about a possible merger have caused considerable concern in boardrooms across Germany, where both UK operators have extensive - and fiercely competing - interests.

Should BT and C&W agree a deal, the merged operation would be committed to two rival German telecoms alliances, built up by three of the country's most powerful companies: Veba, RWE and Viag.

Since last January, C&W has been committed to a telecoms alliance with Veba, the electricity, chemicals and telecoms group. C&W holds a 45 per cent stake in Vebecom, the group's telecoms subsidiary, and Veba holds a 10.5 per cent stake in C&W, making it C&W's biggest shareholder.

The equity link, and the fact that Mr Ulrich Hartmann, Veba's chief executive, sits on C&W's board, means, as one telecoms executive pointed out, "there is no closer relationship between a German company and a British company of that size". BT, on the other hand, decided last January to join up with Viag, the Munich based group built around the Bayernwerk utility, which has close links to the powerful Bavarian state government. Last May,

the two partners created a joint venture, Viag InterKom, in which they both hold a 37.5 per cent stake.

That operation was expanded in February when BT and Viag signed a letter of intent with RWE, another of Germany's leading electricity and industrial conglomerates.

As one RWE executive put it, the three partners are "working overtime" to flesh out the letter of intent and create a venture which they hope to have operating by the middle of this year.

The proposed joint venture would be divided into four operations - an overall management company, two units servicing corporate and residential clients and a company managing the networks, RWE said.

BT, Viag and RWE would have equal stakes in the new companies and management responsibility would depend on relative strengths. RWE, for instance, hopes to take the lead in the companies which service residential clients and operate the networks.

Who, then, does Mr Peter Bonfield, BT's chief executive, settle for if BT reaches a deal with C&W?

RWE and Viag might have good reason to be nervous, given that their links with BT



BT, Viag and RWE executives discuss the proposed joint venture. From left: Peter Bonfield (BT), Ulrich Hartmann (Veba), and a third executive.

may have been created with the best intentions but are not yet cemented by the sort of equity swap which has taken place between Veba and C&W.

Both companies, however, insisted yesterday that their tie-up with BT was progressing as planned.

Mr Franz Josef Schmitt, the RWE board member responsible for telecoms, met Mr Pat Gallagher, BT's director of

business development, on Monday for what was described as a "routine" meeting.

"We have had an additional, more substantial commitment from BT that it plans to continue with the existing projects," a senior RWE executive said.

If BT feels committed to RWE and Viag, what does it do about Veba? The Düsseldorf

based group has indicated it would not be satisfied with a smaller stake in a merged BT/C&W operation.

Veba last week announced record profits of DM2.1bn (\$1.4bn) and said it planned to invest DM6.7bn this year. The group's planned investments, according to one Veba executive, were always deliberately kept below the group's cash flow - around DM3.5bn - so

that "we have a little extra room for manoeuvre".

Withdrawing from operations like Viag InterKom would prove legally difficult for BT. Lumping all three German companies into one alliance, which would then compete against Deutsche Telekom, the state-owned operator, is unlikely to be acceptable in Germany, given that the three would dwarf Deutsche Telekom in terms of financial muscle.

Germany's cartel authority refused to comment on what it called a "hypothetical situation", adding only that any deal of that kind would be referred to European Union authorities in Brussels because of its size.

The logic behind a BT/C&W merger will, it seems, be the attractive overlaps in the US and Asian markets, not least C&W's 58 per cent stake in Hong Kong Telecom.

"As a strategic, global solution, C&W is vital for BT," said one German telecoms executive. "The solution to the problems in Germany will be secondary. Besides, BT has the added advantage that it can choose who it does business with in Germany." See Lex

Böhler-Uddeholm sale given warm reception

By Antonia Sharpe

Austria's privatisation programme has received a welcome boost from the successful sale of shares in Böhler-Uddeholm, a leading producer of specialist steel.

Demand from international investors was such that OIAG, the state industrial holding company, sold off more of the company than it had originally intended.

OIAG had planned to reduce its stake from 72.7 per cent to 45 per cent, but the strong interest enabled it to cut its

stake to 25 per cent. The transaction of 5.25m shares, priced at Sch785 each late last week, raised Sch4.1bn (\$393m), making it the largest Austrian share offering since the \$850m privatisation of VA Technologie, the plant engineering group, in May 1994.

Shares in Böhler-Uddeholm yesterday rose Sch24 to Sch55 as investors tried to buy stock in the market.

Bankers said the offering had been about five times oversubscribed. Creditanstalt, SBC Warburg and CS First Boston were the advisers.

TENDER NOTICE UK GOVERNMENT ECU TREASURY BILLS

For tender on 9 April 1996

1. The Bank of England announces the issue by Her Majesty's Treasury of ECU 1,000 million nominal of UK Government ECU Treasury Bills, for tender on a bid-yield basis on Tuesday 9 April 1996. An additional ECU 50 million nominal of Bills will be allotted directly to the Bank of England for the account of the Exchange Equalisation Account.

2. The ECU 1,000 million of Bills to be issued by tender will be dated 11 April 1996 and will be in the following maturities: ECU 200 million for maturity on 16 May 1996; ECU 500 million for maturity on 11 July 1996; ECU 300 million for maturity on 10 October 1996.

3. All tenders must be made on the printed application forms available on request from the Bank of England. Completed application forms must be lodged, by hand, at the Bank of England Customer Settlement Services Office, Threadneedle Street, London, not later than 10.30 a.m., London time, on Tuesday, 9 April 1996. Payment for Bills allotted will be due on Thursday, 11 April 1996.

4. Each tender at each yield for each maturity must be made on a separate application form for a minimum of ECU 500,000 nominal, and tenders above this minimum must be in multiples of ECU 100,000 nominal.

5. Tenders must be made on a yield basis (calculated on the basis of the actual number of days to maturity and a year of 360 days) rounded to two decimal places. Each application form must state the maturity date of the Bills for which application is made, the yield bid and the amount tendered for.

6. Notification will be despatched on the day of the tender to applicants whose tenders have been accepted in whole or in part. For applicants who have requested credit of Bills in global form to their account with ESO, Euroclear or CREST, Bills will be credited in the relevant systems against payment. For applicants who have requested definitive Bills, Bills will be available for collection at Customer Settlement Services, Bank of England after 1.30 p.m. on Thursday, 11 April 1996. England provided cleared funds have been credited to the Bank of England's ECU Treasury Bills Account No. 59005516 with Lloyds Bank Plc, Bank Relations, St George's House, PO Box 787, 6-8 Eastcheap, London EC3M 1LL. Definitive ECU Bills will be available in amounts of ECU 10,000, ECU 50,000, ECU 100,000, ECU 500,000, ECU 1,000,000, ECU 5,000,000 and ECU 10,000,000 nominal.

7. Her Majesty's Treasury reserves the right to reject any or part of any tender.

8. The arrangements for the tender are set out in more detail in the Information Memorandum on the UK Government ECU Treasury Bill programme issued by the Bank of England on behalf of Her Majesty's Treasury on 28 March 1995, and in supplements to the Information Memorandum. All tenders will be subject to the provisions of the Information Memorandum (as supplemented) and to the provisions of this notice.

9. The ECU 50 million of Bills to be allotted directly to the Bank of England for the account of the Exchange Equalisation Account will be for maturity on 10 October 1996. These Bills may be made available through sale and repurchase transactions to the market makers listed in the Information Memorandum (as supplemented) in order to facilitate settlement.

10. Copies of the Information Memorandum (and supplements to it) may be obtained at the Bank of England, UK Government ECU Treasury Bills are issued under the Treasury Bills Act 1877, the National Loans Act 1968 and the Treasury Bills Regulations 1968 as amended.

\* The asterisked maturity dates are ECU non-clearing days. As stated in the Information Memorandum issued on 28 March 1995, in the event that any maturity date specified for any issue of Bills is not a business day, payment will be made on the succeeding business day without any interest or other sums in respect of the delay in payment.

Bank of England 2 April 1996

Advertisement for Bank of America featuring a large image of a \$100 bill and the text: MORE THAN \$60 BILLION IN FX GOES THROUGH OUR HANDS EACH DAY (Yet Nothing Slips Through Our Fingers) We approach foreign exchange as a relationship business. So it is not the sheer volume of transactions which run through our worldwide trading rooms which sets us apart. It is the importance we place on each one. Bank of America

COMPANIES AND FINANCE: AMERICAS

Apple may turn its back on mass market

By Christopher Parkes in Los Angeles

Apple Computer, the struggling pioneer of the personal computer industry, may try to design its way out of trouble - by making tough, elegant and reliable machines which set it apart from the mass market.

Mag-Lite is a premium-priced, finely engineered flashlight that stands out in a commodity-type market dominated by cheap, often throw-away devices.

Mr Amelio's proposal, which may form part of a grand recovery strategy to be announced in May on completion of Mr Amelio's first 100 days in office, would represent a sharp reversal of the tactics adopted by his predecessor, Mr Michael Spindler.

Apple had stocks worth \$1.9bn at the end of the first quarter, half in components and half in finished computers. After a loss in the first three months of \$69m, statements from the company suggested the number of job losses - previously set at 1,300, or 9 per cent of the workforce - might be increased.

Further details of restructuring are not expected until Mr Amelio's May statement, although the expected write-off for labour cuts has been increased from \$135m to \$175m.

Canadian cable-TV groups to form link

By Bernard Simon in Toronto

MORE THAN 100 Canadian cable-TV operators plan to co-ordinate marketing, research and other activities with the aim of strengthening their hand in the intensifying competition against the country's powerful telephone companies.

Members of the Canadian Cable-TV Association said yesterday they were setting up a new company, to be known as vision.com, to challenge Stentor, the consortium created by the regional phone companies in the early 1990s.

"We hope to accomplish together what none of us could accomplish separately," said Mr Ted Rogers, chairman of Rogers Communications, the biggest cable operator.

The joint venture will focus on giving the cable industry a competitive edge in three main areas: Internet access, interactive TV and local phone services.

It will also seek to establish well-recognised national brands.

NEWS DIGEST

Allegheny-Teledyne takeover detailed

The conglomerate formed by the agreed all-share takeover of California's Teledyne by Allegheny Ludlum of Pennsylvania will comprise two groups that will in effect be separate.

Observers said that given Allegheny's much-praised strategy to date of concentrating on metals, this raised the possibility of a sale of the Californian arm at some stage.

SWP shares up as trading starts

Shares in Saskatchewan Wheat Pool, Canada's biggest farm co-operative, went immediately to a C\$2 premium over the C\$12 offer price when trading began on the Toronto Stock Exchange yesterday.

"It's a big culture change but we'll benefit from a larger and more diverse shareholder base," Mr Larsen said.

The company's capital is now structured into class A voting stock, all held by the member farmers, and nearly 30m class B non-voting shares valued in the market yesterday at more than C\$40m.

Canada air traffic sale complete

The Canadian government has completed the sale of the air traffic control systems at the country's main airports to Nav Canada, which is controlled by several airlines, the air traffic controllers and private aircraft operators.

Nav Canada is raising nearly C\$3bn by an issue of debt securities, mainly in Canada, for which RBC Dominion Securities is the lead underwriter.

Flat reception for true blue Pepsi relaunch

By Roderick Oram, Consumer Industries Editor

Stony silence greeted the finale yesterday of Pepsi-Cola's extravagant launch of its "radical change in image and attitude".

As the temporary stage in a hangar at Loudoo's Gatwick airport pulled back to reveal a blue Concorde airliner, barely a murmur was heard from the audience of hundreds of trade customers, journalists and Pepsi personnel from around the world.

In some 20 countries by the end of this year, and the rest of the world except the US and Canada by the end of next year, Pepsi will have ditched its red, white and blue logo and cans for predominantly blue ones.

It is trying to appeal to teenagers - "the most important consumers of today and tomorrow", Mr Swanhuis said.

only a handful of minor markets. It hopes to fight back by branding itself as the drink of the hip and young.

The UK spend, for example, will rise 50 per cent to \$28m (\$3.4m) this year. A large part of that will be on direct advertising and marketing and the balance on ancillary activities.

Aetna purchase highlights a growing trend

Acquisition of US Healthcare may create national managed care group, writes Lisa Bransten

Fierce competition and shrinking profit margins are driving the US healthcare sector. This was highlighted this week when Aetna - once a traditional insurer - spent nearly \$9bn on buying US Healthcare, the managed healthcare group.

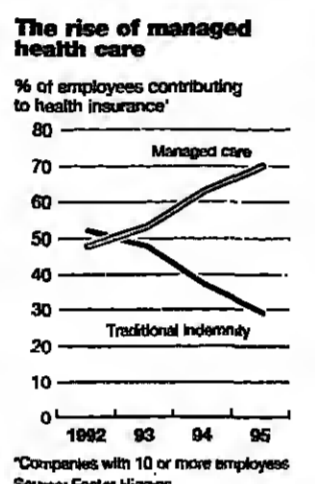
That trend is expected to gain momentum, as big healthcare groups bolster membership by buying the small, regional, managed care groups that emerged during the mid-1990s.

The healthcare revolution in the US gathered steam in the early 1990s, as private healthcare purchasers - generally, those companies responsible for covering their workers - turned to managed care to control costs.

grew by offering lower premiums, achieved by requiring patients to choose among certain groups of doctors, hospitals or other providers.

Enrolment in HMOs soared, as did their profitability. From 1987 to 1990 HMOs outperformed the Standard & Poor's 500 by 450 per cent.

"The predominant mind-set among senior executives at major managed care firms is to obtain economies of scale by cutting costs and expanding market share," says Mr Gary Frazier, a healthcare analyst at Bear Stearns, the US investment bank.



Source: Foster Higgins

care, the biggest US private managed care group before the Aetna deal, moved into the north-east from its base in the Midwest by buying Metra-Health, the combined health insurance businesses of traditional insurers Met Life and Travelers Group.

In the past five years a number of the Blues, such as Blue Cross of California, have moved into the "for-profit" sector to give them the stock and access to financing that will allow them to buy smaller providers and remain competitive.

Rising cost pressures have also led managed care groups to look to strategic partnerships with healthcare providers as a way to control costs.

Last week, for example, Blue Cross and Blue Shield of Ohio agreed to be acquired by Columbia/HCA, the largest for-profit hospital group in the US, for \$230m.

For both healthcare providers and the managed care groups that pay them, the goal is to find ways to reduce costs, he says.

ABN-AMRO Holding N.V. established at Amsterdam. FINAL DIVIDEND 1995. The Managing Board of ABN AMRO Holding N.V. proposes, with the approval of the Supervisory Board, to declare a dividend for the 1995 financial year of NLG 3.60 per ordinary share of NLG 5 each.

CREDIT LOCAL DE FRANCE FRF 300,000,000 - REVERSE FLOATER BONDS DUE 2003. Bondholders are hereby informed that the rate for the sixth period of interest has been set at 5.18485 % and is payable as from October 1st, 1996.

US\$300,000,000 Eagle Pier Corporation B.V. Floating Rate Secured Notes due 2001. Notice is hereby given that the notes will bear interest at 5.75% per annum for the period 3 April 1996 to 3 October 1996.

PERSONAL PUBLIC SPEAKING. Training and speech writing by award winning speaker. For fees and terms visit our website: Tel: (01923) 652286

BENETTON GROUP S.p.A. Registered Office: Via Villa Minelli, 1. Ponzano Veneto (TV) Italy. Issued and fully-paid capital stock: Lire 67,276,862,500. NOTICE OF ORDINARY AND EXTRAORDINARY GENERAL MEETING.

In the absence of any further developments since the last announcement on 13 March 1996, caution should continue to be exercised in any dealing in the shares of the company. Johannesburg 2 April 1996

The Republic of Venezuela C\$275,000,000. Fixed Rate Interest-Bearing Securities. STG Interest-Bearing Securities.

NOTICE TO THE HOLDERS OF US \$100,000,000 UNITED MEXICAN STATES LIBOR/CEXES NOTES DUE 11/27/96. The Applicable Case Rate for the period of March 20, 1996 to April 17, 1996 is 4.126% annual.

The United Mexican States. Fixed Rate Notes due 2006. Notice to the holders of the United Mexican States Fixed Rate Notes due 2006.

Handwritten note in Arabic script: صك من الاموال

COMPANIES AND FINANCE: ASIA-PACIFIC/INTERNATIONAL

SA bank to market US cash management systems

By Mark Ashurst in Johannesburg
First National Bank of Southern Africa has secured exclusive access to the sub-Saharan region to sell the global electronic cash management systems of Chase Manhattan Bank and Bank of America under its own label.

Private labelling in the banking market has been spreading, as many banks find it too expensive to develop their own international treasury systems. Chase, for example, has already sold its private label electronic banking system to clients such as Westpac of Australia and US Trust. But FNB's deal is believed to be the first to grant single foreign bank access to the networks of the two US rivals.

"This is the most complex of any private label deal with American banks," said Jay Ruzewitsch, an independent consultant advising First National Bank. "South Africa is a very specialisation and I don't think either Chase or BOA will actively set this kind of arrangement up anywhere else." FNB desires electronic banking in southern Africa and has invested about R2 (\$6.25m) in developing these systems for corporate clients over the next five years. Its deal with the US banks reflects growing demand from local corporations for international cash management services, and stiffer competition from foreign banks, as South Africa returns to the global economy.

Mr Barry Swart, FNB managing director, said the new product, FirstWorld, would combine treasury systems and electronic funds transfer with FNB's domestic services. "Neither Chase nor BOA uses the system we've got. FirstWorld is a combination of all three products." FirstWorld will enable electronic payments and multi-currency foreign exchange transactions to be processed in about 25 seconds, via a permanent telecommunications link leased from British Telecommunications. The number of transactions, which previously took between 24 hours and 48 hours to complete, is expected to multiply when exchange controls are abolished.

The new products will supersede the cash management services offered by FirstCorp, the merchant banking operation acquired from Citibank when the US multinational quit South Africa in 1983. Its return last year was the catalyst for FNB to develop its own international cash management systems. "Our business would automatically have gone back to Citibank if we had not updated the old Citibank systems inherited in the 1980s," said Mr David Meadows, vice-president of FirstCorp, which last year processed about 90,000 transactions on behalf of 10 of South Africa's largest mining, manufacturing and retail conglomerates. Citibank, the biggest of the foreign banks in South Africa, had declined an approach from FNB to franchise its cash management systems. Mr Mark Taylor, executive vice-president of global payment services at Bank of America, said he hoped the deal would form a basis for closer collaboration with FNB in future. "The fact that this is a non-exclusive contract means that we're still in discussion," he said.

NEWS DIGEST

Newcrest rejects Normandy plan

Newcrest Mining, the Australian gold producer, yesterday rejected proposals from Normandy Group to overtake the stakeholder between the two companies over merger plans. Newcrest directors said, however, that they were still prepared to discuss a merger if certain conditions were fulfilled. They recommended formal discussions be started between the two. The Newcrest statement followed an offer on Monday from Normandy's chairman, Mr Robert Champion de Crespigny, to include Newcrest in a merger. But he said Newcrest would first be required to support a merger of the four Normandy Group companies. Newcrest has already rejected the four-way merger plan after spending more than A\$450m (US\$354m) this year to buy strategic stakes in two of the Normandy companies from Minorco, the South African mining house. Newcrest said yesterday: "The basis on which Newcrest would be prepared to enter into merger negotiations is that they lead to a binding agreement prior to the Normandy Group merger proceeding. Newcrest does not consider it appropriate to agree in advance to a valuation process where the interests of the Newcrest shareholders are in the hands of a third party." Bruce Jacques, Sydney

Malaysian betting group ahead

Tanjong, the Malaysian betting group, reported good net profit for the year ended January 31 of M\$180.6m (US\$63.4m), a rise of 6.3 per cent on the previous year. "The major contributors to the improved performance were increases in net interest income, increases in investment income and reduced prize payouts in the Numbers Forecast Totalisator Business," the group said. It added that prospects for the current year remained good although two joint-venture operations, Tanjong Golden Village and Pacific Online Systems, were not expected to make significant contributions. AP-DV, Kuala Lumpur

Lend Lease buys UK stake

Lend Lease Corporation, the Australian financial services group, has bought a 50 per cent stake in Chelverton Properties, the UK property group, for an undisclosed sum. Lend Lease said it would provide a £10m (\$15.2m) loan to Chelverton to help it become a "significant retail development force in Europe". Chelverton specialises in out-of-town retail parks. Bruce Jacques

Sanfu Motors mulls Burma move

Sanfu Motors, the Taiwan carmaker, is considering investing about US\$500m to build a car plant in Burma, said Taiwan press reports. No date was offered for the plant to be ready and production targets were not given. Reuters, Taipei

Bid consortium invites Cairo to put up or shut up

Ministers will have to show that they are serious about privatisation

Egypt's much vaunted commitment to privatisation will be tested in the next few days as the government decides whether to give the green light to the first state asset sale through the Cairo Stock Exchange. In the first offer of its kind in Egypt, a consortium of local and foreign investors has put together a formal bid to buy a 65 per cent stake in the Alexandria Portland Cement Company. The initial offer is priced according to last week's closing share price of E2354, which values the stake at E2320m (\$83.6m). Although more than 60 per cent of the money raised will come from local participants in the consortium, which is led by a leading local merchant bank, the Egyptian Financial Group, some of the best-known UK and US global and emerging market investors are included. Until now, the Egyptian government has been reluctant to

push ahead with full-scale privatisation, fearing of losing control of industrial sector and creating mass unemployment. Out of a list of more than 300 state assets, only three companies have been fully sold - wholesale, to other companies - since 1991, when Egypt embarked upon wide-ranging economic reforms, led by the International Monetary Fund and the World Bank. Sixteen others, including Alexandria Cement, have been only partially privatised, by the sale of 10 per cent tranches of equity to private investors through the local stock exchange. With the appointment of a new prime minister, Mr Kamal el-Ganzari, at the beginning of this year, the government has reportedly indicated that its privatisation programme would be faster and would cut deep into the public sector.

In February, it published a long-awaited list of state companies it wants to sell, including a majority sale of Alexandria Cement - 80 per cent owned by the state's Holding Company for Chemicals, with 10 per cent held in a trust for its employees. Despite such public posturing, members of the consortium are taking care not to second-guess a government which has been notoriously slow in responding to private sector initiatives. "The bid [for Alexandria Cement] is a perfect opportunity for the government to show it is serious about privatisation. It will break the logjam in privatisation and encourage more investors to look seriously at the value of some of the companies being offered," says one foreign investor in the consortium. "If it is rejected, it will make a mockery of what they have been saying publicly," he adds. In the last fiscal year, Alexandria Cement reported a

69 per cent increase in net profits - from E231.5m to E323.2m - as a result of rising cement prices, lower provisions and repayment of its all debts. Sales increased 13 per cent from E127.2m to E144m. As well as attractive cash reserves, it owns a sizeable stake in another Egyptian cement company, Suez Cement. Although the company is widely felt to be overvalued, with 1,537 employees, the consortium has pledged that it would not force any redundancies and would proceed with an expansion programme to double capacity to 1.5m tons over the next three years. Although the bid has not been officially announced, the target's share price has moved against the market, closing at 3 per cent above the bid price. The market has dropped 2 per cent since last Thursday. James Whittington



Ready for action: Cairo's bourse, where state stake would be sold

Peregrine result bolstered by sale of stake in Invesco

By Louise Lucas in Hong Kong
Peregrine Investments Holdings, the Hong Kong merchant bank, yesterday reported a 35 per cent rise in net profits, from HK\$650.73m in 1995 to HK\$1.01bn (US\$131m) last year. The result was bolstered by HK\$270m profit realised on the sale of the majority of its interests in Invesco, the UK fund management concern. Recurring earnings were bad, however. The company's direct investment arm in Australia made a number of poor investments - principally in plastic moulding products which was unable to meet the demands of a competitive market and forced Peregrine to write off HK\$77m in its country, after three years of build-up for the venture to make good. Losses were also recorded in

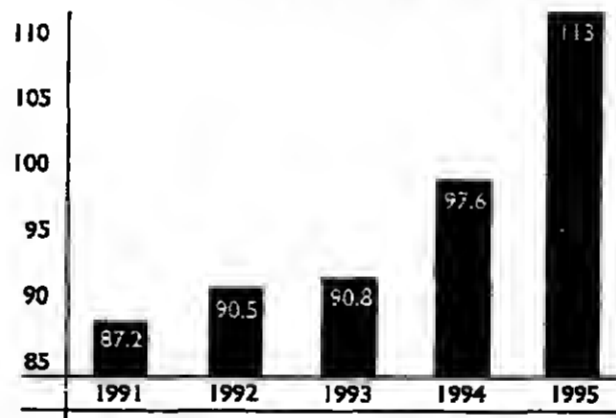
Arma, where the group's 50 per cent stake in arawn plant became a matter of contention when the government ended recognition of Peregrine's holding and its representative there allegedly failed to represent its interests. The case is now in litigation. Elsewhere in Asia, Peregrine suffered from weak markets in what the company called "an extremely difficult and frustrating year". Corporate finance struggled under poor conditions, while equity brokerage was profitable but tough. However, fixed income and equity derivatives - principally covered warrants on the Hong Kong market - performed well. In an attempt to tackle its problems and to streamline operations, the group restructured its management team at the end of last year. The board

has been reshaped to comprise four executive and three non-executive directors. An executive committee (Exco), comprising the four executive directors, with heads of the various business streams, has been formed to act as the management nucleus. Peregrine has assumed full control of its activities in Burma, where it does corporate advisory work, trade financing business and running a fish trading operation. "50-60 joint ventures just don't work," said Mr Alan Mercer, managing director of Exco. Earnings per share on a fully diluted basis rose 45.73 per cent, from HK\$1.067 to HK\$1.555. Shareholders are to receive a dividend of 28 cents, up from last year's of 25 cents, and a one-for-10 bonus issue of warrants.

Annual General Meeting of Telefonica Shareholders.

GOALS ACHIEVED IN 1995: GROWTH, EFFICIENCY, QUALITY AND STRENGTHENED POSITION.

INCOME PTA/SHARE



DIVIDEND PTA/SHARE

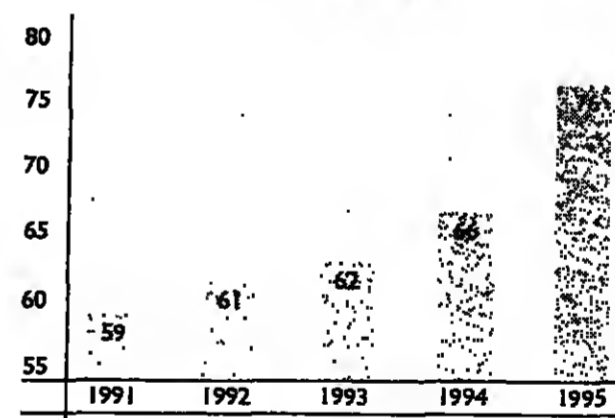


Table with 4 columns: ECONOMIC HIGHLIGHTS, TELEFONICA, CONSOLIDATED GROUP, and years 1994, 1995. Rows include Operating Revenue, Operating Profit, Income before tax, and Net Income.

SHAREHOLDER COMMITMENT

Our priority regarding our shareholders is that of improving their return on investment, and we are therefore dedicated to increasing revenue per line, achieving improved productivity levels, the self financing of the Group and the distribution of greater dividends in line with the Group's results.

CONFIRMED INTERNATIONAL LEADERSHIP

Troughout 1995, Telefonica de España, through its subsidiary Telefonica Internacional, confirmed its position of leadership in the telecommunications sector in Latin America, strengthening the competitive position of the operators under its management, expanding its activity to Mexico's long distance market and reaching an agreement to gain access to the cable TV business in Argentina. As a consequence of this policy, Telefonica has both maintained and confirmed its position as Spain's leading multinational.



VOLKSWAGEN AG Wolfsburg

Invitation to the Ordinary Annual Meeting of Stockholders
We have pleasure in inviting holders of ordinary and referred shares to the Ordinary Annual Meeting of Stockholders to be held at 10.00 a.m. on Wednesday, June 29, 1996 at the Congress Centrum Hamburg, Am Dammtor, 20355 Hamburg.

- Agenda:
1. Presentation of the interim financial statements, the consolidated financial statements, the Management Report and the Group Management Report for the year ended December 31, 1995 together with the Report of the Supervisory Board.
2. Resolution on appropriation of net earnings available for distribution.
3. Resolution on resolution of the actions of the Board of Management for the fiscal year 1995.
4. Resolution on resolution of the actions of the Supervisory Board for the fiscal year 1995.
5. Resolution on approval of an inter-company agreement.
6. Appointment of auditors for the fiscal year 1996.

Entitlement to attend the Annual Meeting of Stockholders and to exercise voting rights is restricted to stockholders, and with regard to voting rights of ordinary shares who, in accordance with the Articles of Association, deposit their shares or certificates of deposit of their shares in a bank for central depository of securities at the latest by May 28, 1996 at the depository designated below, at a notary or a bank for central depository of securities and leave them there until the end of the Annual Meeting of Stockholders. The depository is: Bank of Bremen is S.G. Warburg & Co. Ltd. in London. It is also possible, with the agreement of a depository, to hold the shares at another bank and block them until the end of the Annual Meeting of Stockholders.

Wolfsburg, April 1996 The Board of Management

IN INDONESIA WE PROTECT THE RAINFOREST WITH FISH.

WWF projects has resulted in over a hundred fish ponds being built on the Irian Jaya coast in central lowlands. The fish ponds provide a secure and reliable source of income and food for the local communities. They also produce an unobtainable ingredient, a reason for the villagers to take care of the local rain-forest. The ponds require a supply of clean, fresh water. This is only obtainable throughout the year if a non-erosive area of the neighbouring river is kept intact. WWF and WWF-Indo have worked to preserve and conserve the ponds, and fish to stock them with. And because we believe in a more important to ensure the physical of a river than just paying money. WWF agricultural extension services helped to construct concrete tanks and dug fish ponds. Now an entire community benefits, and the rain forest remains from the fish pond programme without outside help. It was would like to help an set up pond projects to save the rain-forest, write to the Membership Office at the address below.



Les Echos advertisement for financial times, mentioning recruitment opportunities and contact details.

Handwritten Arabic text: سكوذا من الاصل

COMPANIES AND FINANCE: UK

UK contracting gets filip as continuing businesses rise 28%

Tarmac passes low point

By David Wighton

Tarmac yesterday reported encouraging signs in UK contracting as it announced a 28 per cent increase in operating profit on its continuing businesses for 1995.

Tionalis fell to just £20.3m (£107.2m). Mr Simms said no decisions had yet been made as to job losses following Tarmac's acquisition of Wimpey's construction and aggregates in February.



Neville Simms: orders were very strong in last quarter

Liberty sees sharp fall as chief resigns

Liberty, the retailing and textiles group known for its distinctive prints, yesterday announced the departure of its chief executive and warned of a sharp fall in profits, writes David Blackwell.

In spite of the world famous brand name centred on the flagship store in Regent Street, London, profits have been in decline from the £7.23m of 1990-91.

Deutsche Telekom could buy Videotron

By Alan Cane

Deutsche Telekom, Europe's biggest telecommunications group, is in talks which could lead to it acquiring a majority stake in Videotron Holdings, the UK's sixth largest cable television company.

The competitive situation in the UK would change radically should Deutsche Telekom acquire Videotron. The German company, which operates the world's largest cable network, reaching 16m German households, is moving urgently to establish a bridgehead in the UK to counter the invasion of its home market by British Telecom.

COMPANYS S.A. Perez Companys (Incorporated in Argentina as a sociedad anonima) NOTICE OF A MEETING and NOTICE OF EARLY REDEMPTION

NOTICE IS HEREBY GIVEN, in accordance with the Sixth Schedule to the Trust Deed, dated June 29, 1993, entered into between Companys Naviera Perez Companys S.A.C.F.I.M.F.A. (now Perez Companys S.A., "Perez Companys") and Citicorp Trust Co. S.A.C.F.I.M.F.A. (now Citicorp Trust Co. S.A., "Citicorp Trust Co.")

Thorn reveals music talks with Bertelsmann

By Alice Rawsthorn

Thorn EMI, the leisure group, held discussions this winter with Bertelsmann, the German media concern, about a possible alliance between their music divisions.

acquisition of CLT, the Luxembourg television company. Thorn EMI continues to face stock market speculation that a predator might bid for the entire group before the demerger in an attempt to acquire EMI Music at a lower price.

An alliance between EMI and BMG would have created the largest force in the \$40bn global music industry. However such an alliance might have run into anti-trust problems in the US and other countries.

Analysts dismissed the rumours as "purely speculative". Although many expect a bid for EMI before or after the demerger, Seagram, the Canadian drinks and entertainment group, is a favoured contender, followed by Walt Disney and News Corporation.

Bad debt, lottery hits Littlewoods

The National Lottery, a sharp rise in bad debts at its home shopping division, and restructuring costs were behind a fall in profits at Littlewoods, the private retailing and pools group, writes Patrick Harverson.

Return of 70's-style development

London's biggest shopping development since the 1970s looks likely to go ahead following an agreement which unifies control of a 37-acre site at White City, to the west of central London. The deal brings to an end months of negotiations between the owners of different parts of the site and opens the way for a £200m (\$304m) development, writes Simon London.

Pre-tax profits fell 16 per cent from £116m to £97.3m (£461m on turnover of £2.21bn (£2.46bn)). Excluding exceptional gains of £18.8m from property disposals and the withdrawal from retail finance, operating profits were down at £77.7m (£107.6m).

The project promises to be the largest of its kind in the capital since Brent Cross, the UK's first covered shopping mall, was developed in north London in the 1970s.

The announcement came as Chesfield unveiled a 6 per cent increase in net assets per share for 1995.

The announcement came as Chesfield unveiled a 6 per cent increase in net assets per share for 1995.

Rising trend for MBOs and MBIs

By David Wighton

The value of management buy-outs and buy-ins in the UK reached a record \$3.1bn (£12.3bn) in the year to March on the back of buoyant stock markets and the trend towards "focus" among UK quoted companies.

There has also been a big rise in the number of buy-outs and particularly buy-ins from private vendors. Such transactions include secondary buy-outs in which venture capitalists acquire businesses from existing venture capital investors, sometimes with a management change in the middle.

Table with columns: Treatment, Pre-tax profit, EPS, Current dividend, Date of payment, Dividends, Total for year, Total last year. Lists various companies like Brooks Service, Chesfield, CIA 5, etc.

Aim's success lifts first quarter market debuts

By Christopher Price

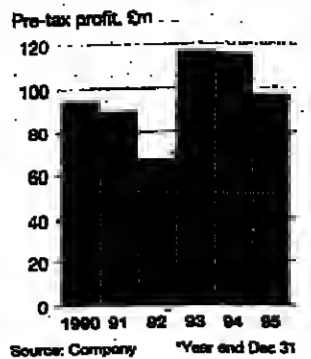
The number of companies seeking a public listing rose sharply in the first quarter of 1996, boosted by admissions to the Alternative Investment Market, the junior market which began trading last June.

Its merits. "Memories are not that short, but if a company is good enough it will receive the rating it deserves." The lingering memories of a number of floats which have been pulled owing to a lack of support.

LEX COMMENT Littlewoods

Those who believe companies could be better run with institutional shareholders breathing down their necks should take a look at yesterday's grim set of results from Littlewoods.

Littlewoods



The share buying followed rumours that Time Warner, the US entertainment group, or Sony, the Japanese electronics and entertainment concern, planned to bid at £22 to £23 a share.

Woolwich Woolwich looks deeply vulnerable. Having announced that conversion into a bank and float on the stock market next year remained "firmly on track", Mr Robinson's surprise departure, however, may make the society vulnerable to a bid from a potential predator.

Woolwich loses chief executive

By Clay Harris and Alison Smith

Mr Peter Robinson's abrupt departure, which left his job yesterday only three months after he was appointed as chief executive of Woolwich Building Society, the UK's third largest Mr Donald Kirkham, his predecessor, will return as acting chief executive.

convert into a bank and float on the stock market next year remained "firmly on track". Mr Robinson's surprise departure, however, may make the society vulnerable to a bid from a potential predator.

The 1996 European Fund Management Conference. Wednesday 29 and Thursday 30 May. Conrad International, Dublin. Sponsored by The Chase Manhattan Bank N.A., Coopers & Lybrand, Mellon Trust and William Fry.

سبکداری من الاجل

COMMODITIES AND AGRICULTURE

Annual Opec price rises urged to avoid free-for-all

By Robert Corzine

An annual 5 per cent increase in output by the Organisation of Petroleum Exporting Countries could be the least painful way for the group to achieve its market share and price goals, according to a former senior Opec official.

Opec has maintained a production ceiling of 24.52m barrels a day since September 1983, but the strategy has generally failed to deliver higher oil prices, in part because a number of Opec states ignore their production quotas.

levels would be if this discipline is no longer maintained," he added. Most speakers at the conference argued that Opec still had a role to play in stabilising the world oil market.

UK group becomes Europe's biggest lead recycler

By Kenneth Gooding, Mining Correspondent

Europe's biggest lead recycling business has been formed by Quexco of the UK, which has acquired the lead business of Metallgesellschaft of Germany and the lead recycling facilities of Enrisorse of Italy.

be the world's biggest recycler of lead from used car batteries, will continue to manage the UK company. But it no longer has a controlling shareholding.

companies such as HJ Enthoven and British Lead Mills in France, it acquired 10,000 tonnes of annual rolling capacity via Le Pionn Francis.

Table with 4 columns: Year (1995, 1996, 1997, 1998), Primary Recycled, Total. Values range from 2,225 to 4,467.

Source: Quexco, Metallgesellschaft, Enrisorse

Quexco first moved into Europe in 1993 when it acquired Bilton's lead recycling and fabrication operations in the UK and France from the Royal Dutch/Shell group.

Metallgesellschaft, the German industrial and trading group, has sold to Quexco its Berzelius primary lead smelter in Germany and stakes in five secondary lead smelters located in Europe and the Middle East.

the Italian state-owned Eni group, has two recycling plants, one near Milan and the other in Naples.

MG, which came close to bankruptcy in 1994, first announced the possible sale in May as part of a big asset disposal programme and it caused some concern at Germany's metal workers' union.

These objections have now been resolved and Quexco took over from January 1 the Berzelius primary smelter at Stolberg, which has the capacity to produce 80,000 tonnes of lead and lead alloys a year using the QSL process developed by Lurgi, an MG subsidiary.

the Italian state-owned Eni group, has two recycling plants, one near Milan and the other in Naples.

Apax, Bankers Trust and ECI Ventures helped to fund the acquisition of the Bilton assets by Quexco.

New equity for the MG and Enrisorse deals was provided by Apax, HSBC Private Equity and Prudential Venture Managers and the debt was led by Chemical Bank, co-arranged by Banque Paribas and underwritten by Chemical Bank, Banque Paribas and Lloyds Bank.

Table with 2 columns: Metal, Price. Includes Aluminium, Aluminium alloy, Copper, Lead, Nickel, Tin, Zinc.

India faces challenge to develop 'tremendous' mining potential

By Kenneth Gooding

India has tremendous potential to develop its mining and metals industry but faced a big challenge if it was to attract the necessary capital, according to Mr Rajat Kohli, analyst at MC Securities, a London based investment bank.

companies setting up preliminary joint venture agreements to explore for minerals, with Australian groups to the fore. There had been some foreign interest in upstream projects and some money had been spent on preparatory work.

investment totalling \$2bn. Liberalisation of India's steel industry had led to financing being arranged for 17 major new steel works and another eight projects were being appraised.

The sub-continent had the right geology, low labour costs and its mining and tax legislation was partly liberalised in 1993, Mr Kohli pointed out. But "there is tremendous competition for available capital created by the large number of mining and metal projects under consideration or development in other emerging markets, for example China, the former Soviet Union, Latin America and sub-Saharan Africa".

Mr Kohli identified 14 proposed copper projects involving about US\$1.5bn of investment that will be raised primarily via domestic equity markets, local bank financing and international equity issues.

There were also eight aluminium and five alumina (aluminium oxide) projects in the pipeline. At least \$500m had already been committed in the aluminium sector and the total could rise to \$2bn. The alumina projects would also need

Zambian farmers value schooling above eating

John Madeley explains why people are becoming hungry as maize production rises

One of the poorest areas in Zambia has witnessed a transformation in the past ten years that could be envied in Africa. The country's remote North Western Province has gone from being a food-deficit to a food-surplus area.

Under the North Western Province Area Development Project, which began in 1980, small farmers in three of the province's six districts - Solwezi, Mwinilunga and

and has hardly been lowered. A nutrition surveillance programme lists "underweight rates" for the North Western Province as 32 per cent in 1986 and 31 per cent in 1994. Furthermore there is little evi-

that their malnutrition has anything to do with food". Some crops, like soyabean, are now being recognised as valuable in providing nourishment, she said, and extension workers are encouraging farm-

areas, found it difficult to take their maize to urban centres and negotiate a sale. "Many farmers were caught unaware by the new policy and found themselves stuck with surplus maize," says the IFAD evaluation.

'Many people are only just beginning to realise that their malnutrition has anything to do with food'

Kasempa - have been given credit and advice and encouraged to plant more maize, especially improved varieties. This has led to a huge increase in output and to an increase in incomes.

Maize output in the three districts rose from 80,789 bags (50kg each) in 1986 to 255,218 in 1994, a recent evaluation by the Rome-based International Fund for Agricultural Development, which supports the project, says the province has been transformed "into a substantial maize producer".

But the evaluation also shows that while food output has risen, malnutrition is still

Employment remains obstinately high in the province and a project official admitted that the project could do little directly to reduce this.

Woodland is abundant and could be cleared for the unemployed to practice agriculture, although the cost would be high. For young unemployed people, who organise into groups, there is a limited amount of government funding to clear land and start farming.

"We are now a food self-sufficient province," says the project's co-ordinator, Mr Boniface Munnahla. "But growing more food is not enough in itself. To tackle malnutrition, you need several things - you need to produce the right kind of food, you need health care and drinking water, you need co-ordination".

COMMODITIES PRICES

BASE METALS

LONDON METAL EXCHANGE

Table of base metal prices including Aluminium, Copper, Lead, Nickel, Zinc, Tin, and Silver. Columns include price, change, high, low, and open.

Precious Metals continued

Table of precious metal prices including Gold, Silver, and Platinum. Columns include price, change, high, low, and open.

GRAINS AND OIL SEEDS

Table of grain and oil seed prices including Wheat, Barley, Soybeans, and Copra. Columns include price, change, high, low, and open.

SOFTS

Table of soft commodity prices including Cocoa, Coffee, and Sugar. Columns include price, change, high, low, and open.

MEAT AND LIVESTOCK

Table of meat and livestock prices including Live Cattle, Live Hogs, and Pork Bellies. Columns include price, change, high, low, and open.

LONDON TRADED OPTIONS

Table of London traded options prices for various commodities. Columns include price, change, high, low, and open.

JOTTER PAD

Table of Jotter Pad prices for various commodities. Columns include price, change, high, low, and open.

CROSSWORD

Crossword puzzle grid with clues and solutions. Includes 'ACROSS' and 'DOWN' clues.

PRECIOUS METALS

Table of precious metal prices including Gold, Silver, and Platinum. Columns include price, change, high, low, and open.

NATURAL GAS

Table of natural gas prices including Heating Oil, Crude Oil, and Gas Oil. Columns include price, change, high, low, and open.

FUTURES DATA

Table of futures data for various commodities. Columns include price, change, high, low, and open.

INDICES

Table of market indices including Reuters, FTSE, and Nikkei. Columns include price, change, high, low, and open.

INTERNATIONAL CAPITAL MARKETS

Investors stay on sidelines ahead of US jobs data

By Richard Lapper in London and Richard Waters in New York

Government bond prices rose gently yesterday but trading was thin ahead of the Easter holidays and Friday's keenly awaited US employment figures. "All major bets [are] off

helped extend Monday's gains in the US Treasury market into yesterday morning. By late morning, the benchmark 30-year bond was up 1/8 at 98 1/2 to yield 6.62 per cent, on reports that traders were continuing to close short positions ahead of the Friday report.

GOVERNMENT BONDS

until the markets see the colour of the US figures on Friday," said Mr David Brown, senior European economist at Bear Stearns in London. "Considering this is the first week in a new quarter, when investors should have the hit between their teeth on portfolio asset re-allocation, you could hardly have got a more quiet start."

Economic data that was mildly positive for bonds

was news that the auctions expected this week will not come until the beginning next week. The \$18.25bn auction of two-year notes and \$12bn sale of five-year paper have been scheduled for next Monday and Tuesday.

German bond futures opened brightly, breaking through important technical levels despite the absence of economic news. Prices were then squeezed higher into the close, with a number of traders moving to cover short positions. At Life the June 10-year future settled at 96.56, up nearly half a point on the day.

Mr Alex Cooper, Life floor manager with Credit Lyonnais Rouse, said volume in the contracts were exchanged - was higher than on Monday and reported some buying by European professional traders. But he also said that many players are already closing their books ahead of the Easter

break. "With Easter falling where it is, a number of bankers are saying 'we don't want proprietary risk on our books'. There are plenty of reasons to stay close to shore."

In the cash market, Germany underperformed the US, with the 10-year yield spread between Treasuries and bunds falling from six to two basis points.

A number of analysts argue that decoupling between the US and German markets is still likely to occur. Mr Michael Burke, senior economist with Citibank in London, disagrees. He says that when Germany and the US have been in different phases of their business cycles in the past it has not usually led their markets to move in opposite directions.

"In the long term rates in both markets are determined by a common factor - the supply and demand for capital, and the demand for capital is rising."

The French market largely tracked Germany, with the 10-year yield spreads over bunds falling from 438 to 437 basis points and from 327 to 323 basis points, respectively. Spain was again helped by hopes that the Popular party may soon be able to form a government.

By contrast Sweden underperformed, with its 10-year spread over bunds widening out to 211 basis points. The market was adversely affected by news that the Swedish National Audit Office had upgraded its budget deficit forecast for 1996/97 to SKr198.3bn, compared with a previous forecast of SKr181bn.

Mr Simon Briscoe, senior UK economist with Nikko Europa, said the announcement today of gilt auction plans for the second quarter could lead to a resurgence of buying activity. A decision to auction short-dated stock and/or floating rate issues will help demand for longer-dated paper, he said.

Mr Peter Moore, senior portfolio manager at AMP Asset Management, said that the market was overvalued last week on the mad cow disease scare and that "gilts are looking exceptionally cheap. No one wants to sell gilts lower."

UK power groups poised to take up facilities for bids

By Antonia Sharpe

Activity in the international syndicated loans market has slowed ahead of Easter but once the holiday is over, the second quarter should be as busy as the first.

SYNDICATED LOANS

Big facilities in the pipeline include financings for National Power and PowerGen of the UK, as widely expected, the Monopolies and Mergers Commission clears their bids for the regional electricity companies, Southern Electric and Midlands Electricity.

Loans for both companies were put on ice earlier this year when their bids were referred to the MMC. National Power had lined up a \$2.5bn loan from NatWest, Chemical (now Chase), Barclays and UBS while PowerGen had put in place a \$2.5bn loan from Goldman Sachs, Deutsche Bank, Barclays and Midland.

Bankers believe PowerGen could try to re-negotiate the interest margin over London interbank offered rates (Libor), thought to have been set at 2 1/2% basis points. But National Power would have difficulty in improving its margin, believed to be 1 1/2% basis points.

ABN-Amro, Goldman Sachs and J.P. Morgan are providing a bridge loan, believed to be for \$20m, to the Dutch food retailer Aldi to fund its \$2.5bn takeover of S&P & Shop, the US supermarket chain. The loan will be refinanced through bank debt and bond issues and the company also plans a share issue.

Another big borrower in the second quarter could be Cadex, set up by the French government to plug the FFR160bn shortfall in the country's social

security system. The government is believed to be close to a decision which will allow Cadex to tap the syndicated loans market.

R/B Mining is refinancing a facility taken out when it bought British Coal's English mines in 1994. The margin on the five-year \$20m facility, which is being arranged by BZW and Chase, is believed to be half that on R/B's existing, secured facility of more than 1 per cent.

In emerging Europe, Chase and Citibank are arranging a \$500m five-year facility for SPT, the Czech telecoms company. The facility, which has a margin of between 20 and 25 basis points, will be syndicated in the next month.

BZW has arranged a DM76m six-year credit facility for Nova Ljubljanska Banka, Slovenia's biggest bank, at similar terms to those for the public itself which recently obtained a margin of between 40 and 50 basis points.

BZW and Bank Austria have underwritten the facility which will be syndicated at a later date. Slovenia is widely seen as an improving credit and is expected soon to get an investment-grade rating.

In project finance, Bank of Tokyo, Bayerische Landesbank and UBS have underwritten a SKr1.35bn 15-year loan to partly fund the SKr4.4bn construction of a train link between Stockholm's Arlanda airport and the city.

The loan is being syndicated to a small group of relationship banks of the project's sponsors, which include John Mowlem Construction, GEC Alsthom, NCC and Siab.

Construction of the link, the first privately-financed project in Sweden, is scheduled to take three years. The loan will be repaid over the following 12 years.

Convertible issues dominate as trading remains subdued

By Samar Iskandar

While straight bond issuance remained subdued, yesterday, primary market activity in convertibles regained momentum.

INTERNATIONAL BONDS

TB Finance broke new ground by making conversion mandatory on its latest issue of preference shares exchangeable into common shares of Tokai Bank. As a result, the funds will qualify as tier-one capital for the parent bank. The amount, Y100bn, made this the third largest issue of convertible paper in the euro-market.

Mandatory exchange works in much the same way as

sinking fund on straight bonds, with two tranches of Y33bn converted in 2004 and 2006, the last tranche, totalling Y34bn, will be exchanged when the paper matures in October 2004. Conversion at the holder's option is subject to price revision. The deal, launched on March 26, was priced yesterday with a coupon of 2% per cent, at the high end of the indicative range of 2-2 1/2% per cent.

Investor demand was strong, said syndicate members, due to the relatively high yield of the issue compared with a yield of around 0.50 per cent on the ordinary shares. This attracted interest from equity investors in addition to convertible bond fund managers.

Deutsche Finance launched the first D-Mark denominated Original Discount Issue of bonds convertible into shares

of Allianz. The issue saw strong demand, which prompted the lead manager, Deutsche Morgan Grenfell, to increase the amount by DM250m to DM1bn despite a relatively high conversion premium of 25 per cent. Issued at 86.64, the paper ended the day at 86.80. The five-year bonds are callable after three years and conversion is only possible after the end of the second year, which in effect sets a "conversion window" of only one year.

But this limitation did not seem to dampen demand, and the lead manager expects this deal to "possibly inspire other German issuers". Deutsche Bank, which guarantees the paper, owns a 10 per cent stake in Allianz. To be able to keep that holding intact, it has retained the option to provide

a cash alternative to... on conversion in place of Allianz shares". The US dollar sector saw little activity, with only a handful of small and medium-sized deals launched. Caisse Centrale des Banques Populaires,

NEW INTERNATIONAL BOND ISSUES

Table with columns: Issuer, Amount, Coupon, Price, Maturity, Fees, Spread, Book-runner. Includes entries for US Dollars, DM, and AUSTRALIAN DOLLARS.

The financing arm of the French federation of banks, raised \$250m, paying a floating rate 10 basis points below 3-month Libor. D&L Bank tapped an existing issue for an additional \$100m, yielding 3 basis points over

FT-ACTUARIES FIXED INTEREST INDICES

Table showing interest rates for various terms (1 to 5 years) and currencies (USD, GBP, etc.) with columns for price, yield, and spread.

FT FIXED INTEREST INDICES

Table showing fixed interest rates for various maturities and currencies, including US, UK, and other international markets.

GILT EDGED ACTIVITY INDICES

Table showing activity indices for gilt-edged securities, including various maturities and yields.

FT/ISMA INTERNATIONAL BOND SERVICE

Large table listing international bond issues with columns for issuer, amount, coupon, price, maturity, and book-runner.

WORLD BOND PRICES

BENCHMARK GOVERNMENT BONDS

Table of benchmark government bond prices for various countries including Australia, Austria, Belgium, Canada, Denmark, France, Germany, Greece, Ireland, Italy, Japan, Netherlands, Portugal, Spain, Sweden, and UK Gilts.

US INTEREST RATES

Table showing US interest rates for Treasury bills and bond yields across different maturities.

BOND FUTURES AND OPTIONS

France

Table of French bond futures and options prices for various maturities.

Germany

Table of German bond futures and options prices for various maturities.

UK GILTS PRICES

Table of UK gilt prices for various maturities, including 15-year, 10-year, 7-year, and 5-year bonds.

EU BOND FUTURES OPTIONS (LIFE) DM250,000 points of 100%

Table of EU bond futures options for Germany, including calls and puts for various maturities.

Italy

Table of Italian bond futures and options prices for various maturities.

Spain

Table of Spanish bond futures and options prices for various maturities.

UK

Table of UK bond futures and options prices for various maturities.

Japan

Table of Japanese bond futures and options prices for various maturities.

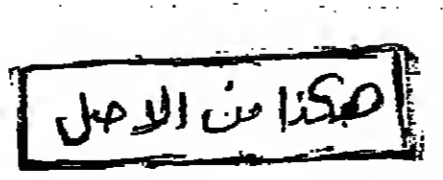
US

Table of US Treasury bond futures and options prices for various maturities.

Other Fixed Interest

Table of other fixed interest rates for various international markets and currencies.

Financial Times Ltd, 1996. Reproduction in whole or in part in any form not permitted without written consent. Data supplied by International Securities Market Association.





سوقنا من الامل

CURRENCIES AND MONEY

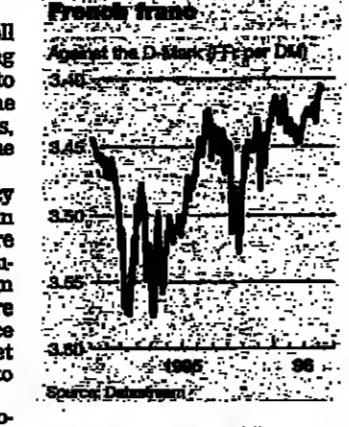
MARKETS REPORT

Dollar's rise stalls as trading activity slows

By Graham Bowley
The dollar's recent resurgence against the yen and D-Mark appeared to peter out yesterday as most major currencies returned to established trading ranges amid thin turnover.

new finance minister might ease foreign exchange controls soon. But a spokesman for Mr Manuel denied the rumours. The pound lost ground. It closed at DM2.2687 at the end of London trading, from DM2.2623 at Monday's close.

Europe was having on countries' budget deficits. Mr Eddie George, governor of the Bank of England, again adopted something of a Eurosceptic tone when he said after a meeting at the EMI that the slow-down in EU economies would make meeting the 1999 start date for a single European currency more difficult.



As Pinned in New York

Table with 4 columns: Bid, Ask, Bid-Ask, and % Chg. Lists various currency pairs and their market movements.

POUND SPOT FORWARD AGAINST THE POUND

Table showing forward rates for the pound against various currencies (Australia, Belgium, Denmark, etc.) with columns for closing mid-point, change on day, bid/offer spread, and bank of origin.

DOLLAR SPOT FORWARD AGAINST THE DOLLAR

Table showing forward rates for the dollar against various currencies (Australia, Austria, Belgium, etc.) with columns for closing mid-point, change on day, bid/offer spread, and bank of origin.

CROSS RATES AND DERIVATIVES

Table of exchange cross rates for various currencies (Belgium, Denmark, France, Germany, etc.) with columns for currency, bid, ask, and other market data.

EUROPEAN CURRENCY UNIT RATES

Table showing ECU rates for various countries (Spain, Netherlands, Belgium, etc.) with columns for ECU rate, change on day, and % of form.

UK INTEREST RATES

Table of London money rates for various terms (Overnight, 7 days, One month, etc.) with columns for bid, ask, and bid-ask spread.

SWISS FRANK FUTURES (SMF) SF 125,000 per SF

Table of Swiss franc futures prices for various months (Jun, Sep, Dec) with columns for price, change, and bid-ask spread.

BASE LENDING RATES

Table of base lending rates for various banks (Adair & Conway, Allied Irish Bank, etc.) with columns for bank name and rate.

WORLD INTEREST RATES

Table of world interest rates for various countries (Belgium, France, Germany, etc.) with columns for money rates and Euro currency interest rates.

Table of three-month Eurodollar futures prices for various months (Jun, Sep, Dec) with columns for price, change, and bid-ask spread.

US TREASURY BILL FUTURES (TBM) \$1m per 100%

Table of US Treasury bill futures prices for various months (Jun, Sep, Dec) with columns for price, change, and bid-ask spread.

MONTECARLO OPTIONS (MCO) \$100m points of 100%

Table of Monte Carlo options prices for various months (Jun, Sep, Dec) with columns for price, change, and bid-ask spread.

FINANCIAL ENGINEERING

Advertisement for Financial Engineering, featuring text about tools and techniques to manage financial risk, and contact information for Kim Whiting.

Advertisement for Brokerage service that's second to none, offering fast fills, 50-70% commission savings, and access to worldwide markets.

Advertisement for Siderca S.A.C. (INCORPORATED IN ARGENTINA) offering 10% negotiable obligations with a notice of payment of principal installment and interest.

Advertisement for MIDLAND INTERNATIONAL CIRCUIT FUND, a Société d'Investissement à Capital Variable, with details on the interim dividend and share classes.

LONDON SHARE SERVICE

ALCOHOLIC BEVERAGES

ALCOHOLIC BEVERAGES
Company Name, Price, Change, etc.

BANKS, MERCHANT

BANKS, MERCHANT
Company Name, Price, Change, etc.

BANKS, RETAIL

BANKS, RETAIL
Company Name, Price, Change, etc.

BREWERIES, PUBS & REST

BREWERIES, PUBS & REST
Company Name, Price, Change, etc.

BUILDING & CONSTRUCTION

BUILDING & CONSTRUCTION
Company Name, Price, Change, etc.

BUILDING MATS. & MERCHANTS

BUILDING MATS. & MERCHANTS
Company Name, Price, Change, etc.

CHEMICALS

CHEMICALS
Company Name, Price, Change, etc.

DIVERSIFIED INDUSTRIALS

DIVERSIFIED INDUSTRIALS
Company Name, Price, Change, etc.

DISTRIBUTORS

DISTRIBUTORS
Company Name, Price, Change, etc.

ELECTRICITY

ELECTRICITY
Company Name, Price, Change, etc.

ELECTRONIC & ELECTRICAL EQPT

ELECTRONIC & ELECTRICAL EQPT
Company Name, Price, Change, etc.

ENGINEERING, VEHICLES

ENGINEERING, VEHICLES
Company Name, Price, Change, etc.

EXTRACTIVE INDUSTRIES

EXTRACTIVE INDUSTRIES
Company Name, Price, Change, etc.

ELECTRONIC & ELECTRICAL EQPT - Cont.

ELECTRONIC & ELECTRICAL EQPT - Cont.
Company Name, Price, Change, etc.

ENGINEERING

ENGINEERING
Company Name, Price, Change, etc.

ENGINEERING - Cont.

ENGINEERING - Cont.
Company Name, Price, Change, etc.

EXTRACTIVE INDUSTRIES - Cont.

EXTRACTIVE INDUSTRIES - Cont.
Company Name, Price, Change, etc.

FOOD PRODUCERS

FOOD PRODUCERS
Company Name, Price, Change, etc.

GAS DISTRIBUTION

GAS DISTRIBUTION
Company Name, Price, Change, etc.

HEALTH CARE

HEALTH CARE
Company Name, Price, Change, etc.

EXTRACTIVE INDUSTRIES - Cont.

EXTRACTIVE INDUSTRIES - Cont.
Company Name, Price, Change, etc.

HOUSEHOLD GOODS

HOUSEHOLD GOODS
Company Name, Price, Change, etc.

INSURANCE

INSURANCE
Company Name, Price, Change, etc.

INVESTMENT TRUSTS

INVESTMENT TRUSTS
Company Name, Price, Change, etc.

INVESTMENT TRUSTS - Cont.

INVESTMENT TRUSTS - Cont.
Company Name, Price, Change, etc.

INVESTMENT TRUSTS SPLIT CAPITAL

INVESTMENT TRUSTS SPLIT CAPITAL
Company Name, Price, Change, etc.

HEALTH CARE - Cont.

HEALTH CARE - Cont.
Company Name, Price, Change, etc.

HOUSEHOLD GOODS

HOUSEHOLD GOODS
Company Name, Price, Change, etc.

INSURANCE

INSURANCE
Company Name, Price, Change, etc.

INVESTMENT TRUSTS

INVESTMENT TRUSTS
Company Name, Price, Change, etc.

INVESTMENT TRUSTS - Cont.

INVESTMENT TRUSTS - Cont.
Company Name, Price, Change, etc.

INVESTMENT TRUSTS SPLIT CAPITAL

INVESTMENT TRUSTS SPLIT CAPITAL
Company Name, Price, Change, etc.

INVESTMENT TRUSTS - Cont.

INVESTMENT TRUSTS - Cont.
Company Name, Price, Change, etc.

INVESTMENT TRUSTS SPLIT CAPITAL

INVESTMENT TRUSTS SPLIT CAPITAL
Company Name, Price, Change, etc.

digital PC
From the UK's leading provider of distributed IT systems and services.
Computacenter

ENGINEERING - Cont.

ENGINEERING - Cont.
Company Name, Price, Change, etc.

EXTRACTIVE INDUSTRIES - Cont.

EXTRACTIVE INDUSTRIES - Cont.
Company Name, Price, Change, etc.

FOOD PRODUCERS

FOOD PRODUCERS
Company Name, Price, Change, etc.

GAS DISTRIBUTION

GAS DISTRIBUTION
Company Name, Price, Change, etc.

HEALTH CARE

HEALTH CARE
Company Name, Price, Change, etc.

INVESTMENT TRUSTS

INVESTMENT TRUSTS
Company Name, Price, Change, etc.

INVESTMENT TRUSTS - Cont.

INVESTMENT TRUSTS - Cont.
Company Name, Price, Change, etc.

INVESTMENT TRUSTS SPLIT CAPITAL

INVESTMENT TRUSTS SPLIT CAPITAL
Company Name, Price, Change, etc.

صحة من الامل

LONDON SHARE SERVICE

INV TRUSTS SPLIT CAPITAL - Cont.

Table listing investment trusts with columns for Name, Price, and % Change.

LEISURE & HOTELS - Cont.

Table listing leisure and hotel companies with columns for Name, Price, and % Change.

OTHER FINANCIAL - Cont.

Table listing other financial companies with columns for Name, Price, and % Change.

PROPERTY - Cont.

Table listing property companies with columns for Name, Price, and % Change.

SUPPORT SERVICES - Cont.

Table listing support services companies with columns for Name, Price, and % Change.

AIM - Cont.

Table listing AIM companies with columns for Name, Price, and % Change.

OTHER INVESTMENT TRUSTS

Table listing other investment trusts with columns for Name, Price, and % Change.

INVESTMENT COMPANIES

Table listing investment companies with columns for Name, Price, and % Change.

OIL EXPLORATION & PRODUCTION

Table listing oil exploration and production companies with columns for Name, Price, and % Change.

PHARMACEUTICALS

Table listing pharmaceutical companies with columns for Name, Price, and % Change.

RETAILERS, GENERAL - Cont.

Table listing general retailers with columns for Name, Price, and % Change.

TOBACCO

Table listing tobacco companies with columns for Name, Price, and % Change.

TRANSPORT

Table listing transport companies with columns for Name, Price, and % Change.

WATER

Table listing water companies with columns for Name, Price, and % Change.

SUPPORT SERVICES

Table listing support services companies with columns for Name, Price, and % Change.

AIM

Table listing AIM companies with columns for Name, Price, and % Change.

PAPER, PACKAGING & PRINTING

Table listing paper, packaging, and printing companies with columns for Name, Price, and % Change.

RETAILERS, FOOD

Table listing food retailers with columns for Name, Price, and % Change.

RETAILERS, GENERAL

Table listing general retailers with columns for Name, Price, and % Change.

TELECOMMUNICATIONS

Table listing telecommunications companies with columns for Name, Price, and % Change.

TEXTILES & APPAREL

Table listing textiles and apparel companies with columns for Name, Price, and % Change.

LIFE ASSURANCE

Table listing life assurance companies with columns for Name, Price, and % Change.

MEDIA

Table listing media companies with columns for Name, Price, and % Change.

RETAILERS, GENERAL

Table listing general retailers with columns for Name, Price, and % Change.

AMERICANS

Table listing American companies with columns for Name, Price, and % Change.

CANADIANS

Table listing Canadian companies with columns for Name, Price, and % Change.

SOUTH AFRICANS

Table listing South African companies with columns for Name, Price, and % Change.

YOU'D BE MUCH BETTER OFF IF WE PAID YOUR STAFF.

Your business is running a business. So the less precious time you spend worrying about your payroll the better. Hand the problem over, lock, stock and payroll to CMG.



Creating shared success.

PHARMACEUTICALS

Table listing pharmaceutical companies with columns for Name, Price, and % Change.

RETAILERS, GENERAL - Cont.

Table listing general retailers with columns for Name, Price, and % Change.

PROPERTY

Table listing property companies with columns for Name, Price, and % Change.

OIL INTEGRATED

Table listing oil integrated companies with columns for Name, Price, and % Change.

OTHER FINANCIAL

Table listing other financial companies with columns for Name, Price, and % Change.

LEISURE & HOTELS

Table listing leisure and hotel companies with columns for Name, Price, and % Change.

GUIDE TO LONDON SHARE SERVICE

Prices for the London Share Service delivered by FT Ltd, a member of the Financial Times Group.

Company classifications are based on those used for the FT-SE Actuaries Share Index.

Dividend yield prices are shown in pence unless otherwise stated. High and low are based on one-day and one-year rolling 52 week period.

Market capitalisation shown is calculated separately for each line of stock listed.

Exchange rates used in calculations are based on Bank of England's Central Bank Rate.

Includes the most actively traded stocks. This includes UK stocks and those traded on the London Stock Exchange.

FT Free Annual Reports Service: You can obtain the current annual/interim report of any company annotated with FT's analysis.

FT Company Focus: Comprehensive 10-14 page report available on the company, containing key FT stories from the last year.

FT Cityline: Up-to-the-second share prices are available by telephone from the FT Cityline service.

For readers phoning from outside UK, please dial +44 in place of the first 0.

The share prices printed on these pages are also available on the Internet at www.ft.com.



صحة من الاموال

FT MANAGED FUNDS SERVICE

FT Gayline Unit Trust Prices are available over the telephone. Call FT Cityline Help Desk on (+44 171) 673 4376 for more details.

Table of fund prices and performance data, including columns for fund name, price, and change.

Table of fund prices and performance data, including columns for fund name, price, and change.

Table of fund prices and performance data, including columns for fund name, price, and change.

Table of fund prices and performance data, including columns for fund name, price, and change.

Table of fund prices and performance data, including columns for fund name, price, and change.

Table of fund prices and performance data, including columns for fund name, price, and change.

Table of fund prices and performance data, including columns for fund name, price, and change.

Table of fund prices and performance data, including columns for fund name, price, and change.

OTHER OFFSHORE FUNDS

Table of other offshore fund prices and performance data.

OFFSHORE INSURANCES

Table of offshore insurance policies and details.

PLEASE READ THE MANAGED FUNDS NOTES... This section contains detailed information and disclaimers regarding the funds listed.

Vertical text on the left margin: 'ods', 'oses five', 'Fund', 'erance'.

LONDON STOCK EXCHANGE

MARKET REPORT

Speculators still hot on the takeover trail

By Steve Thompson, UK Stock Market Editor

Another sudden burst of takeover speculation involving a FT-SE 100 constituent - this time Thorn EMI - was just the excuse the stock market was looking for to give leading share prices a much needed lift yesterday.

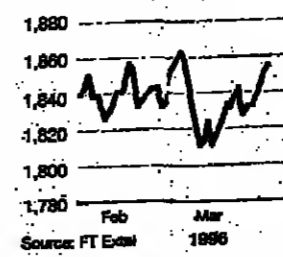
The latest bout of intense bid rumours accompanied a good rally in gilts and left the FT-SE 100 index comfortably clear of the 3,700 level at 3,726.5 up 10.1 on the day.

The market's second liners, represented by the FT-SE Mid 250 index, gave another powerful demonstration of the underlying strength of the domestic stocks, advancing all day and ending 21.8 ahead at another all-time high of 4,348.7.

The market trotted out all the usual suspects as potential bidders for Thorn, including Japan's Sony and Time Warner, of the US, another candidate thought likely to be strongly interested in EMI was MCA, the Seagram subsidiary.

Wireless and BT, the two stocks that have been the driving force in London in recent sessions, among the worst performers.

FT-SE-A All-Share Index



Equity shares traded

Table showing equity shares traded by volume (millions) for FT-SE 100, FT-SE Mid 250, and FT-SE All-Share index, including turnover and long-gilts yield ratio.

Indices and ratios

Table of indices and ratios including FT-SE 100, FT-SE Mid 250, FT-SE All-Share, and various ratios like Dividend Yield and Long Gilts Yield Ratio.

Best performing sectors

Table listing best performing sectors such as Tobacco, Gas Distribution, Life Assurance, and Insurance.

Worst performing sectors

Table listing worst performing sectors such as Extractive Inds, Telecommunications, Diversified Inds, and Transport.

FUTURES AND OPTIONS

Table showing futures and options prices for FT-SE 100 Index Futures and FT-SE 100 Index Options.

TRADING VOLUME

Table showing trading volume for major stocks yesterday, including ASDA Group, British Gas, and others.

Bid talk returns to Thorn

Bid fever gripped the market in mid-afternoon trading yesterday as talk of a 2300p share bid for Thorn EMI spread like a forest fire.

The market's second liners, represented by the FT-SE Mid 250 index, gave another powerful demonstration of the underlying strength of the domestic stocks, advancing all day and ending 21.8 ahead at another all-time high of 4,348.7.

around 20 per cent of UK petrol sales, are in the process of increasing forecast prices by around 3p. Analysts said this was an indication that the cut-throat price war was drawing to a close and would thus help ease margin pressures in the sector.

However, there was little action in the individual stocks yesterday. J. Sainsbury closed 2 down at 367p, while a two-way pull in Tesco left the shares 1/4 lighter at 286 1/2p after a trade of 7.6m.

and Mirror Group Newspapers are seen as likely contenders to bid for football rights. The broker also considers the threat of regulatory moves from the Office of Fair Trading more likely, once rivals bid for football rights.

NatWest reiterated its "reduce" stance and argued that BSKyB could underperform the market by 10 per cent over the next 12 months.

United News & Media improved 2 1/2 to 645p as it announced that the merger offer for MAI had been declared unconditional. MAI shares gained 16 at 413p.

Zeneca ticked up 15 to 1408p - a record closing high - and attracted the almost inevitable bid speculation which continues to surround the company.

Composite insurers picked up with help from Societe Generale Strauss Turbulla and the return of takeover rumours.

SGST moved from underweight to buy on the sector and featured General Accident and Guardian Royal Exchange as its key trading buy recommendations.

544p, after Merrill lifted its current year dividend forecast to 20p a share from 18.5p. National Power moved forward 8 to 498p.

The market was relieved that figures from Tarmac were not as bad as had been feared in some quarters. The shares gained 8 1/2 to 119p, topping the list of the day's most active stocks in the Mid 250 index.

Granada Group gained 1/2 to 777p, following a recommendation from Merrill Lynch. The broker said there was a positive trading outlook for Forte and Granada's other businesses and also suggested the outlook on disposals was favourable.

FT GOLD MINES INDEX

Table showing FT Gold Mines Index with columns for Gold Mines Index, Regional Indices, and various stock prices.

APV RT. HUNGARIAN PRIVATIZATION AND STATE HOLDING COMPANY. INVITATION TO BID. 1. The Hungarian Privatization and State Holding Company (hereinafter: Caller or APV RT., H-1133 Budapest, Üpesti rakpart 31-33, 1) invites a one round open tender for the purchase of the state owned shares of ALKALOIDA Vegyszeti Gyar Rt. (hereinafter: Company, Tiszavassari, Kabay János u. 29., trade register 15-10-040085).

FT - SE Actuaries Share Indices. The UK Series. Table showing various share indices and their performance metrics.

Handwritten note in Arabic script: 'سكنا من الالهي'

سوقان العالم

WORLD STOCK MARKETS

EUROPE (Apr 2 / Fri)
Table listing stock market data for various European countries including Germany, France, UK, Spain, Italy, Greece, and Portugal.

GERMANY (Apr 2 / Fri)
Table listing German stock market data including DAX index and various blue-chip stocks.

FRANCE (Apr 2 / Fri)
Table listing French stock market data including CAC 40 index and various blue-chip stocks.

UK (Apr 2 / Fri)
Table listing UK stock market data including FTSE 100 index and various blue-chip stocks.

SPAIN (Apr 2 / Fri)
Table listing Spanish stock market data including IBEX 35 index and various blue-chip stocks.

ITALY (Apr 2 / Fri)
Table listing Italian stock market data including FTSE MIB index and various blue-chip stocks.

GREECE (Apr 2 / Fri)
Table listing Greek stock market data including ASE index and various blue-chip stocks.

PORTUGAL (Apr 2 / Fri)
Table listing Portuguese stock market data including IMLX index and various blue-chip stocks.

NETHERLANDS (Apr 2 / Fri)
Table listing Dutch stock market data including AEX index and various blue-chip stocks.

FINLAND (Apr 2 / Fri)
Table listing Finnish stock market data including HEX index and various blue-chip stocks.

SWEDEN (Apr 2 / Fri)
Table listing Swedish stock market data including OMX index and various blue-chip stocks.

DENMARK (Apr 2 / Fri)
Table listing Danish stock market data including OMX index and various blue-chip stocks.

IRELAND (Apr 2 / Fri)
Table listing Irish stock market data including ISEQ index and various blue-chip stocks.

NETHERLANDS (Apr 2 / Fri)
Table listing Dutch stock market data including AEX index and various blue-chip stocks.

NETHERLANDS (Apr 2 / Fri)
Table listing Dutch stock market data including AEX index and various blue-chip stocks.

NETHERLANDS (Apr 2 / Fri)
Table listing Dutch stock market data including AEX index and various blue-chip stocks.

NETHERLANDS (Apr 2 / Fri)
Table listing Dutch stock market data including AEX index and various blue-chip stocks.

NETHERLANDS (Apr 2 / Fri)
Table listing Dutch stock market data including AEX index and various blue-chip stocks.

NETHERLANDS (Apr 2 / Fri)
Table listing Dutch stock market data including AEX index and various blue-chip stocks.

NETHERLANDS (Apr 2 / Fri)
Table listing Dutch stock market data including AEX index and various blue-chip stocks.

NETHERLANDS (Apr 2 / Fri)
Table listing Dutch stock market data including AEX index and various blue-chip stocks.

NETHERLANDS (Apr 2 / Fri)
Table listing Dutch stock market data including AEX index and various blue-chip stocks.

NETHERLANDS (Apr 2 / Fri)
Table listing Dutch stock market data including AEX index and various blue-chip stocks.

NETHERLANDS (Apr 2 / Fri)
Table listing Dutch stock market data including AEX index and various blue-chip stocks.

NETHERLANDS (Apr 2 / Fri)
Table listing Dutch stock market data including AEX index and various blue-chip stocks.

NETHERLANDS (Apr 2 / Fri)
Table listing Dutch stock market data including AEX index and various blue-chip stocks.

NETHERLANDS (Apr 2 / Fri)
Table listing Dutch stock market data including AEX index and various blue-chip stocks.

NETHERLANDS (Apr 2 / Fri)
Table listing Dutch stock market data including AEX index and various blue-chip stocks.

NETHERLANDS (Apr 2 / Fri)
Table listing Dutch stock market data including AEX index and various blue-chip stocks.

NETHERLANDS (Apr 2 / Fri)
Table listing Dutch stock market data including AEX index and various blue-chip stocks.

NETHERLANDS (Apr 2 / Fri)
Table listing Dutch stock market data including AEX index and various blue-chip stocks.

NETHERLANDS (Apr 2 / Fri)
Table listing Dutch stock market data including AEX index and various blue-chip stocks.

NETHERLANDS (Apr 2 / Fri)
Table listing Dutch stock market data including AEX index and various blue-chip stocks.

NETHERLANDS (Apr 2 / Fri)
Table listing Dutch stock market data including AEX index and various blue-chip stocks.

NETHERLANDS (Apr 2 / Fri)
Table listing Dutch stock market data including AEX index and various blue-chip stocks.

NETHERLANDS (Apr 2 / Fri)
Table listing Dutch stock market data including AEX index and various blue-chip stocks.

NETHERLANDS (Apr 2 / Fri)
Table listing Dutch stock market data including AEX index and various blue-chip stocks.

NETHERLANDS (Apr 2 / Fri)
Table listing Dutch stock market data including AEX index and various blue-chip stocks.

NETHERLANDS (Apr 2 / Fri)
Table listing Dutch stock market data including AEX index and various blue-chip stocks.

NETHERLANDS (Apr 2 / Fri)
Table listing Dutch stock market data including AEX index and various blue-chip stocks.

NETHERLANDS (Apr 2 / Fri)
Table listing Dutch stock market data including AEX index and various blue-chip stocks.

NETHERLANDS (Apr 2 / Fri)
Table listing Dutch stock market data including AEX index and various blue-chip stocks.

NETHERLANDS (Apr 2 / Fri)
Table listing Dutch stock market data including AEX index and various blue-chip stocks.

NETHERLANDS (Apr 2 / Fri)
Table listing Dutch stock market data including AEX index and various blue-chip stocks.

NETHERLANDS (Apr 2 / Fri)
Table listing Dutch stock market data including AEX index and various blue-chip stocks.

NETHERLANDS (Apr 2 / Fri)
Table listing Dutch stock market data including AEX index and various blue-chip stocks.

NETHERLANDS (Apr 2 / Fri)
Table listing Dutch stock market data including AEX index and various blue-chip stocks.

NETHERLANDS (Apr 2 / Fri)
Table listing Dutch stock market data including AEX index and various blue-chip stocks.

NETHERLANDS (Apr 2 / Fri)
Table listing Dutch stock market data including AEX index and various blue-chip stocks.

NETHERLANDS (Apr 2 / Fri)
Table listing Dutch stock market data including AEX index and various blue-chip stocks.

NETHERLANDS (Apr 2 / Fri)
Table listing Dutch stock market data including AEX index and various blue-chip stocks.

NETHERLANDS (Apr 2 / Fri)
Table listing Dutch stock market data including AEX index and various blue-chip stocks.

NETHERLANDS (Apr 2 / Fri)
Table listing Dutch stock market data including AEX index and various blue-chip stocks.

NETHERLANDS (Apr 2 / Fri)
Table listing Dutch stock market data including AEX index and various blue-chip stocks.

NETHERLANDS (Apr 2 / Fri)
Table listing Dutch stock market data including AEX index and various blue-chip stocks.

NETHERLANDS (Apr 2 / Fri)
Table listing Dutch stock market data including AEX index and various blue-chip stocks.

NETHERLANDS (Apr 2 / Fri)
Table listing Dutch stock market data including AEX index and various blue-chip stocks.

NETHERLANDS (Apr 2 / Fri)
Table listing Dutch stock market data including AEX index and various blue-chip stocks.

NETHERLANDS (Apr 2 / Fri)
Table listing Dutch stock market data including AEX index and various blue-chip stocks.

NETHERLANDS (Apr 2 / Fri)
Table listing Dutch stock market data including AEX index and various blue-chip stocks.

NETHERLANDS (Apr 2 / Fri)
Table listing Dutch stock market data including AEX index and various blue-chip stocks.

NETHERLANDS (Apr 2 / Fri)
Table listing Dutch stock market data including AEX index and various blue-chip stocks.

NETHERLANDS (Apr 2 / Fri)
Table listing Dutch stock market data including AEX index and various blue-chip stocks.

NETHERLANDS (Apr 2 / Fri)
Table listing Dutch stock market data including AEX index and various blue-chip stocks.

NETHERLANDS (Apr 2 / Fri)
Table listing Dutch stock market data including AEX index and various blue-chip stocks.

NETHERLANDS (Apr 2 / Fri)
Table listing Dutch stock market data including AEX index and various blue-chip stocks.

NETHERLANDS (Apr 2 / Fri)
Table listing Dutch stock market data including AEX index and various blue-chip stocks.

NETHERLANDS (Apr 2 / Fri)
Table listing Dutch stock market data including AEX index and various blue-chip stocks.

NETHERLANDS (Apr 2 / Fri)
Table listing Dutch stock market data including AEX index and various blue-chip stocks.

NETHERLANDS (Apr 2 / Fri)
Table listing Dutch stock market data including AEX index and various blue-chip stocks.

NETHERLANDS (Apr 2 / Fri)
Table listing Dutch stock market data including AEX index and various blue-chip stocks.

NETHERLANDS (Apr 2 / Fri)
Table listing Dutch stock market data including AEX index and various blue-chip stocks.

INDICES
Table listing various global stock indices including Nikkei, Hang Seng, and others.

US INDICES
Table listing US stock market indices including Dow Jones, S&P 500, and others.

AFRICA
Table listing stock market data for various African countries.

ASIA
Table listing stock market data for various Asian countries.

AUSTRALIA
Table listing Australian stock market data.

NEW ZEALAND
Table listing New Zealand stock market data.

SINGAPORE
Table listing Singapore stock market data.

INDONESIA
Table listing Indonesian stock market data.

MALAYSIA
Table listing Malaysian stock market data.

INDEX FUTURES
Table listing futures contracts for various indices.

US INDEX FUTURES
Table listing US index futures contracts.

US INDEX FUTURES
Table listing US index futures contracts.

US INDEX FUTURES
Table listing US index futures contracts.

US INDEX FUTURES
Table listing US index futures contracts.

US INDEX FUTURES
Table listing US index futures contracts.

US INDEX FUTURES
Table listing US index futures contracts.

US INDEX FUTURES
Table listing US index futures contracts.

US INDEX FUTURES
Table listing US index futures contracts.

Advertisement for Rockwell Avionics, featuring the text: 'In Europe's crowded skies, Rockwell Avionics plays a key role in promoting safety and efficiency'.

Disclaimer and publication information: 'Copyright © 1996 by The Financial Times Group. All rights reserved. Printed in Great Britain. The FT logo is a registered trademark of The Financial Times Group.'

15 pm April 2

NEW YORK STOCK EXCHANGE COMPOSITE PRICES

Main table containing stock prices for various companies, organized into columns with headers like 'High', 'Low', 'Open', 'Close', 'Change', and 'Volume'. Includes sub-sections for 'D', 'E', 'F', 'G', 'H', 'I', 'J', 'K', 'L', 'M', 'N', 'O', 'P', 'Q', 'R', 'S', 'T', 'U', 'V', 'W', 'X', 'Y', 'Z'.

BE OUR GUEST. CIRAJAN PALACE HOTEL Kempinski Istanbul. When you stay with us in ISTANBUL... with your complimentary copy of the FINANCIAL TIMES

سكنا من الاجل



صكوات الامل

NYSE COMPOSITE PRICES

NASDAQ NATIONAL MARKET

Table of NYSE Composite Prices, including columns for stock symbols, prices, and changes. Includes a handwritten note 'help 15.8%' on the left margin.

Table of NYSE Composite Prices, continuing from the previous table with various stock listings.

Table of NYSE Composite Prices, continuing with more stock listings and price data.

Table of NYSE Composite Prices, continuing with additional stock market data.

Table of NYSE Composite Prices, continuing with further stock market information.

Table of NYSE Composite Prices, continuing with the final section of stock listings.

Table of AMEX Composite Prices, listing various stocks and their market performance.

Table of AMEX Composite Prices, continuing with more stock data.

Table of AMEX Composite Prices, continuing with additional stock listings.

Table of AMEX Composite Prices, continuing with further market data.

Table of AMEX Composite Prices, continuing with more stock information.

Table of AMEX Composite Prices, continuing with the final section of stock listings.

Advertisement for The Netherlands newspaper, featuring the headline 'Have your FT hand delivered in The Netherlands.' and contact information for subscriptions.

AMERICA

Merger boom helps Dow to extend gain

Wall Street

This week's batch of mergers and acquisitions continued to dominate stock market activity on Wall Street yesterday morning...

The Dow Jones Industrial Average of leading stocks was up 6.5 points at 5,644.22 by lunchtime...

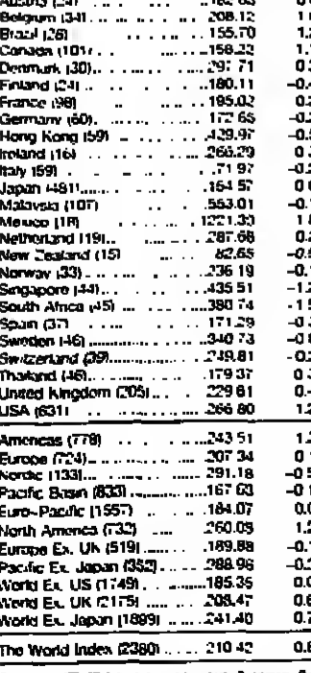
Chase Manhattan, now the US's largest bank, edged forward 3/4% to 87 1/2%...

News of the deal, which would save Telebyte from an unwanted takeover by WHX, another steel maker...

The targets of the week's two other big deals continued to merge with Allegheny Ludlum, a maker of stainless steel...

News of the deal, which would save Telebyte from an unwanted takeover by WHX...

The targets of the week's two other big deals continued to merge with Allegheny Ludlum...



EUROPE

Paris up on undervaluation theory, rate hopes

There was plenty of corporate news in PARIS, but the broad market climbed on the perception that equities still remained undervalued...

Analysts remarked that some portfolio switching had occurred recently, with some institutional investors being persuaded to move out of Germany...

The Dow's modest gains during the morning were underpinned by AT&T, which climbed 1 1/2% to \$63 1/2...

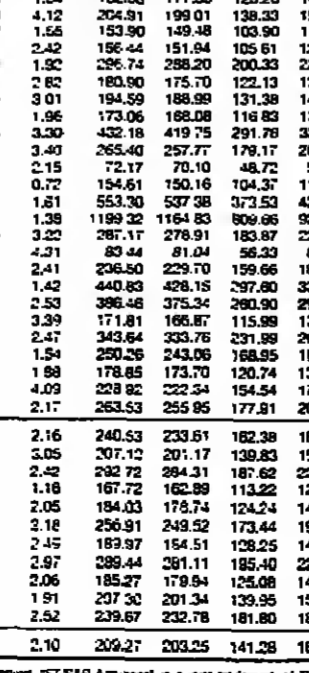
Telecommunications stocks were heavily traded, Northern Telecom moved forward 3 1/2% to \$56...

News of the deal, which would save Telebyte from an unwanted takeover by WHX...

The targets of the week's two other big deals continued to merge with Allegheny Ludlum...

News of the deal, which would save Telebyte from an unwanted takeover by WHX...

The targets of the week's two other big deals continued to merge with Allegheny Ludlum...



Delhaize advanced BFR34 to BFR1,356, the end of a long running price war...

FRANKFURT traded in a narrow range, extending its upward in the afternoon as the Dow came in higher...

The Dow's modest gains during the morning were underpinned by AT&T...

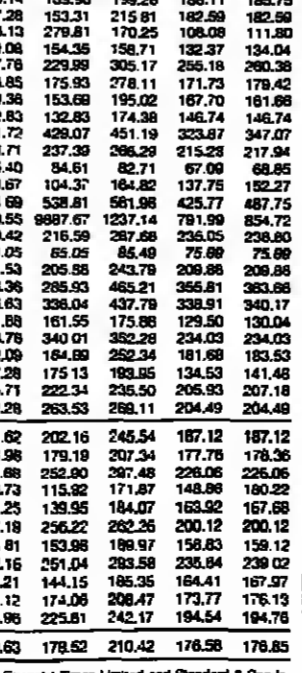
Telecommunications stocks were heavily traded, Northern Telecom moved forward 3 1/2%...

News of the deal, which would save Telebyte from an unwanted takeover by WHX...

The targets of the week's two other big deals continued to merge with Allegheny Ludlum...

News of the deal, which would save Telebyte from an unwanted takeover by WHX...

The targets of the week's two other big deals continued to merge with Allegheny Ludlum...



Delhaize advanced BFR34 to BFR1,356, the end of a long running price war...

FRANKFURT traded in a narrow range, extending its upward in the afternoon as the Dow came in higher...

The Dow's modest gains during the morning were underpinned by AT&T...

Telecommunications stocks were heavily traded, Northern Telecom moved forward 3 1/2%...

News of the deal, which would save Telebyte from an unwanted takeover by WHX...

The targets of the week's two other big deals continued to merge with Allegheny Ludlum...

News of the deal, which would save Telebyte from an unwanted takeover by WHX...

The targets of the week's two other big deals continued to merge with Allegheny Ludlum...



Delhaize advanced BFR34 to BFR1,356, the end of a long running price war...

FRANKFURT traded in a narrow range, extending its upward in the afternoon as the Dow came in higher...

The Dow's modest gains during the morning were underpinned by AT&T...

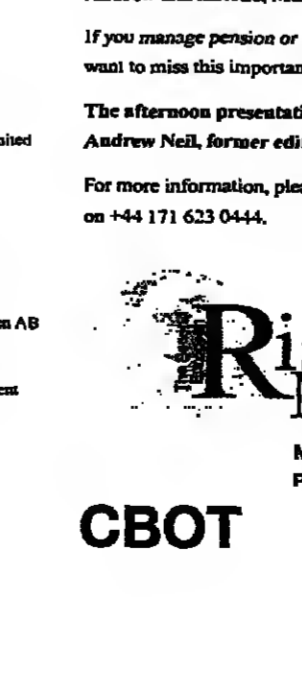
Telecommunications stocks were heavily traded, Northern Telecom moved forward 3 1/2%...

News of the deal, which would save Telebyte from an unwanted takeover by WHX...

The targets of the week's two other big deals continued to merge with Allegheny Ludlum...

News of the deal, which would save Telebyte from an unwanted takeover by WHX...

The targets of the week's two other big deals continued to merge with Allegheny Ludlum...



Delhaize advanced BFR34 to BFR1,356, the end of a long running price war...

FRANKFURT traded in a narrow range, extending its upward in the afternoon as the Dow came in higher...

The Dow's modest gains during the morning were underpinned by AT&T...

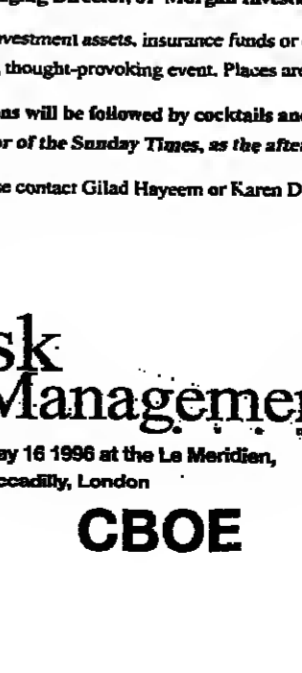
Telecommunications stocks were heavily traded, Northern Telecom moved forward 3 1/2%...

News of the deal, which would save Telebyte from an unwanted takeover by WHX...

The targets of the week's two other big deals continued to merge with Allegheny Ludlum...

News of the deal, which would save Telebyte from an unwanted takeover by WHX...

The targets of the week's two other big deals continued to merge with Allegheny Ludlum...



Delhaize advanced BFR34 to BFR1,356, the end of a long running price war...

FRANKFURT traded in a narrow range, extending its upward in the afternoon as the Dow came in higher...

The Dow's modest gains during the morning were underpinned by AT&T...

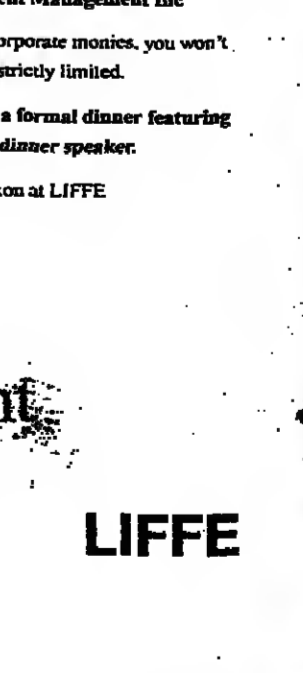
Telecommunications stocks were heavily traded, Northern Telecom moved forward 3 1/2%...

News of the deal, which would save Telebyte from an unwanted takeover by WHX...

The targets of the week's two other big deals continued to merge with Allegheny Ludlum...

News of the deal, which would save Telebyte from an unwanted takeover by WHX...

The targets of the week's two other big deals continued to merge with Allegheny Ludlum...



ASIA PACIFIC

Nikkei overcomes early slide as Bangkok jumps 2.1%

Tokyo Profit-taking and technical selling initially depressed shares, but the Nikkei average managed to recover...

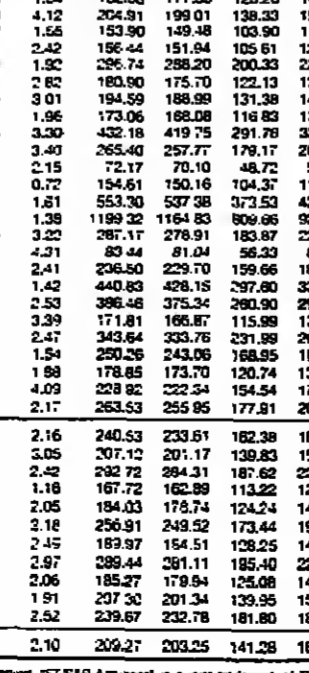
London The ISE/Nikkei 50 index closed 0.90 to 1,437.62. The overnight rise on Wall Street had little impact on sentiment...

News of the deal, which would save Telebyte from an unwanted takeover by WHX...

The targets of the week's two other big deals continued to merge with Allegheny Ludlum...

News of the deal, which would save Telebyte from an unwanted takeover by WHX...

The targets of the week's two other big deals continued to merge with Allegheny Ludlum...



Tokyo Profit-taking and technical selling initially depressed shares, but the Nikkei average managed to recover...

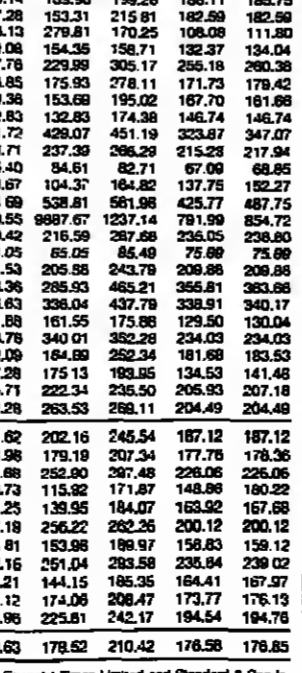
London The ISE/Nikkei 50 index closed 0.90 to 1,437.62. The overnight rise on Wall Street had little impact on sentiment...

News of the deal, which would save Telebyte from an unwanted takeover by WHX...

The targets of the week's two other big deals continued to merge with Allegheny Ludlum...

News of the deal, which would save Telebyte from an unwanted takeover by WHX...

The targets of the week's two other big deals continued to merge with Allegheny Ludlum...



Tokyo Profit-taking and technical selling initially depressed shares, but the Nikkei average managed to recover...

London The ISE/Nikkei 50 index closed 0.90 to 1,437.62. The overnight rise on Wall Street had little impact on sentiment...

News of the deal, which would save Telebyte from an unwanted takeover by WHX...

The targets of the week's two other big deals continued to merge with Allegheny Ludlum...

News of the deal, which would save Telebyte from an unwanted takeover by WHX...

The targets of the week's two other big deals continued to merge with Allegheny Ludlum...



Tokyo Profit-taking and technical selling initially depressed shares, but the Nikkei average managed to recover...

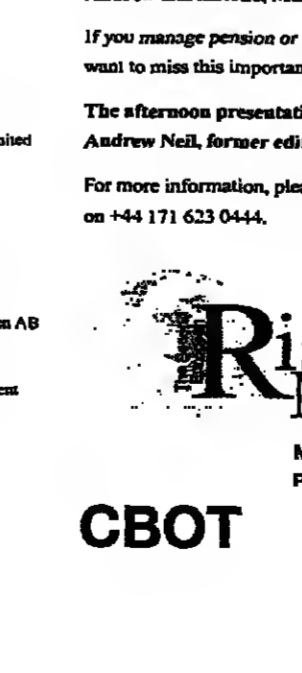
London The ISE/Nikkei 50 index closed 0.90 to 1,437.62. The overnight rise on Wall Street had little impact on sentiment...

News of the deal, which would save Telebyte from an unwanted takeover by WHX...

The targets of the week's two other big deals continued to merge with Allegheny Ludlum...

News of the deal, which would save Telebyte from an unwanted takeover by WHX...

The targets of the week's two other big deals continued to merge with Allegheny Ludlum...



Tokyo Profit-taking and technical selling initially depressed shares, but the Nikkei average managed to recover...

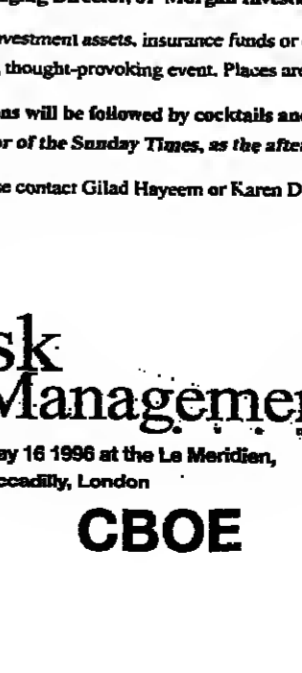
London The ISE/Nikkei 50 index closed 0.90 to 1,437.62. The overnight rise on Wall Street had little impact on sentiment...

News of the deal, which would save Telebyte from an unwanted takeover by WHX...

The targets of the week's two other big deals continued to merge with Allegheny Ludlum...

News of the deal, which would save Telebyte from an unwanted takeover by WHX...

The targets of the week's two other big deals continued to merge with Allegheny Ludlum...



Tokyo Profit-taking and technical selling initially depressed shares, but the Nikkei average managed to recover...

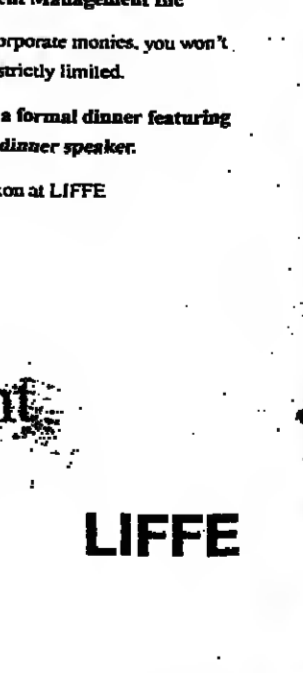
London The ISE/Nikkei 50 index closed 0.90 to 1,437.62. The overnight rise on Wall Street had little impact on sentiment...

News of the deal, which would save Telebyte from an unwanted takeover by WHX...

The targets of the week's two other big deals continued to merge with Allegheny Ludlum...

News of the deal, which would save Telebyte from an unwanted takeover by WHX...

The targets of the week's two other big deals continued to merge with Allegheny Ludlum...



Copyright FT SE International Limited, Goldman Sachs and Co and Standard & Poor's 1996. All rights reserved.

Your Fund. Your Event. Their Insight.

Advertisement for Risk Management conference. Includes text: 'The greatest asset in any fund is knowledge. To help develop this asset. LIFFE, CBOT and CBOE invite you to attend The Second Annual Risk Management Event at Le Meridien Hotel, Piccadilly on 16 May 1996.'

Handwritten text in Arabic script: 'سكنا من الاليل'

FINANCIAL TIMES REVIEW



Interview
View from the top
Robert Palmer
of Digital
Page 2



Focus
Desktop Computing
The sales battle
intensifies
Pages 4-11

Software at work
Sorting the data
Making sense of
the numbers
Pages 13-14



Directions
Videoconferencing
Cost-savings in
time and travel
Pages 16-17

Stockwatch
IT companies
How shares are
performing
Page 20



Information Technology

Wednesday April 3 1996

While the internet has been grabbing most of the headlines in IT over the past 18 months, a quiet revolution has been taking place inside companies. Private intranets - internal Internets shielded from prying eyes by 'firewall' security software - are blossoming.

"This other side of the Internet is about to explode," said the Gartner Group in a report published late last year. The research group expects more than 50 per cent of large companies to have not just intranets, but business-critical "enterprise-wide webs" by 1998.

Intranets take advantage of the open protocols, standards and the familiar Web browser software of the public Internet to provide employees, close customers and suppliers with easy access to corporate information and processes. They enable people to find information easily, work together and share the results of their work. At the same time, employees can venture out on to the Net, but unauthorised users cannot get in.

After experimenting with public World Wide Web sites that promote products and services, companies are seizing on Web tools and software as a swift way to streamline their organisations and improve internal communications.

Already, Netscape, the Internet software supplier, reports that most of its Web server software sales to companies are for internal rather than external use. On the hardware front, Compaq Computer recently announced that all its computer servers will be sold with Web software already installed.

Meanwhile, California-based Zona Research, predicts that sales of software to run intranet servers will jump to more than \$4bn next year, up from just \$476m last year. By 1998, Zona predicts, the figure will hit \$8bn, four times the size of the Internet server business - and that excludes all the applications software packages and programming tools that are needed to create intranets.

The intranet phenomenon, like its public network counterpart, has sent companies such as Computer Associates, IBM, Microsoft, Oracle, Netscape and Sun Microsystems scrambling to rush out intranet software products.

For example, after initially underestimating the impact of the Internet on corporate IT, Microsoft, the world's leading software developer, is racing to catch up. The company's domination of the packaged personal computer operating system and applications market inside companies with products such as Microsoft Back Office makes it particularly vulnerable to any shifts in sentiment.

Recognising this, Microsoft is in the midst of an aggressive catch-up exercise designed to ensure that its corporate products, such as Microsoft Office and Back Office, are not just Internet-aware, but remain at the core of enterprise wide-networking.

"We see the Intranet as leveraging the benefits of the Internet within an organisation," says

Richard Fade, Microsoft's senior vice president in charge of desktop applications. "We think it is important to be able to do things with the existing infrastructure."

Meanwhile, Microsoft has caused ripples in the Web-server software market by giving away its Internet Information Server programme and its browser on the Net.

"Intranets are the most important new computing platform since business computers were introduced into the business environment," says Microsoft, in a discussion paper. "Intranets are about corporate workforce connectivity. They connect people to people and people to information."

Fundamentally, private intranets are being embraced by companies because they bring immediate gains in terms of helping people to find information, work together and distribute their results effectively - "those gains translate into higher productivity, lower costs, and increased competitiveness," says Microsoft.

Advocates for the intranet claim it reduces the need for paper and provides cut-price global access to corporate information, "dissolving all departmental and geographic boundaries". Because Web browsers run on any type of computer, the

First the Internet: now the Intranet phenomenon

Intranets allow companies to streamline their internal communications and productivity. Now the race is on among IT suppliers to catch up with an unstoppable market, reports Paul Taylor

programmers are required to write and maintain software.

Even more importantly, because they present information in the same way to every computer, they are able to consolidate the patchwork of incompatible computer systems, software, and databases which most companies have to live with, into a single system that enables employees to find information whenever it resides.

They also allow employees to work in collaboration on projects. For example, engineers at Ford Motor used the car manufacturer's intranet, linking design centres in the US, Europe and Asia, to help design the 1996 Taurus. Similarly, consultants working for EDS, the computer services group, use EDS Web to collaborate on customer projects. "We are trying to use the intranet as one of the ways to improve productivity," says Todd Carlson, EDS' chief information officer.

From engineers to office workers, employees are creating their own Web home pages and sharing details of their projects and even their diaries with the rest of the company. For example, Federal Express, which is saving an estimated \$2m a year by encouraging customers to track the progress of their packages through a public Web site, is providing its 30,000 worldwide office

concluded Forrester, "It has an unprecedented speed and forward momentum."

The widespread adoption of open intranet technology does, however, pose a serious threat to a large group of companies whose software products are based either entirely or partly on proprietary technology. Among them is Lotus Development whose Lotus Notes 'workgroup' software provides a powerful tool for helping employees collaborate and whose CC Mail electronic mail package is challenged by open Internet e-mail.

Lotus, acquired by International Business Machines last year, has acknowledged the threat. Although its Notes software still beats the Web at functions such as database replication, content organisation and workflow applications it is, nevertheless, moving quickly to support the HTTP 'language' of the Net and adapt Notes to other Internet standards.

Meanwhile, Netscape is itself moving to broaden the range of products it can offer its corporate customers. In September, it bought Collabra which produces groupware software with some of the features of Lotus Notes.

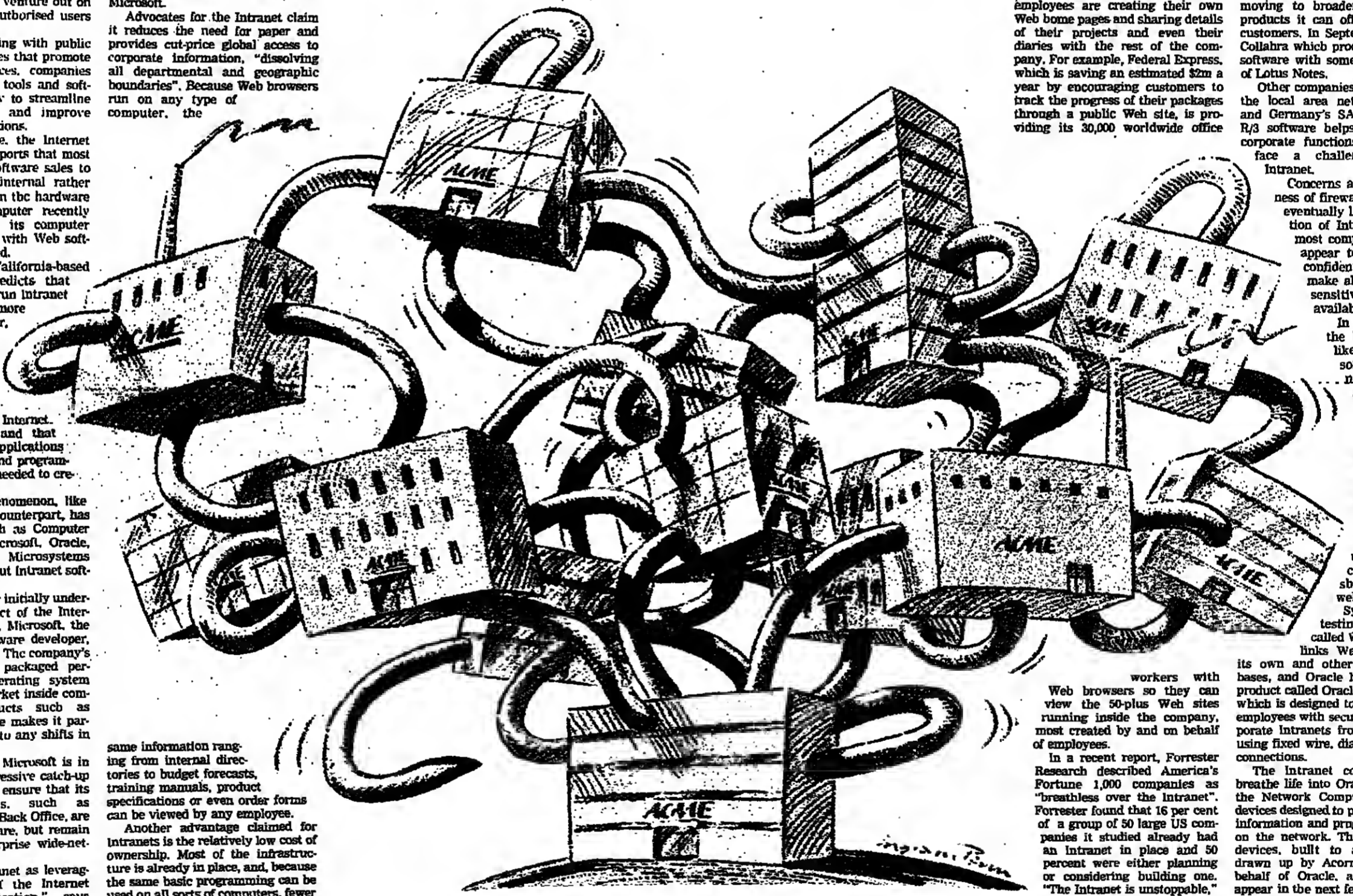
Other companies, such as Novell, the local area networking leader, and Germany's SAP group, whose R/3 software helps bind disparate corporate functions together, also face a challenge from the intranet.

Concerns about the robustness of firewall security could eventually limit the penetration of intranets, although most companies in the US appear to be sufficiently confident in security to make all but their most sensitive information available internally.

In the longer term, the big winners are likely to be those software companies, including security specialists, who manage to ride the intranet wave. Companies such as Oracle, Sybase and Informix which supply the bulk of the big and powerful database systems used by most companies should also do well.

Sybase is already testing a program called Web SQL, which links Web servers with its own and other vendors' databases, and Oracle has developed a product called Oracle Mobile Agents which is designed to provide mobile employees with secure access to corporate intranets from any location using fixed wire, dial-up or wireless connections.

The intranet could also help breathe life into Oracle's vision for the Network Computer - low-cost devices designed to provide access to information and programmes stored on the network. The first network devices, built to a specification drawn up by Acorn Computer on behalf of Oracle, are expected to appear in the next few months.



same information ranging from internal directories to budget forecasts, training manuals, product specifications or even order forms can be viewed by any employee.

Another advantage claimed for intranets is the relatively low cost of ownership. Most of the infrastructure is already in place, and, because the same basic programming can be used on all sorts of computers, fewer

workers with Web browsers so they can view the 50-plus Web sites running inside the company, most created by and on behalf of employees.

In a recent report, Forrester Research described America's Fortune 1,000 companies as "breathless over the intranet". Forrester found that 16 per cent of a group of 50 large US companies it studied already had an intranet in place and 50 percent were either planning or considering building one. "The intranet is unstoppable,"

ICL that's

Every day, our systems and services help maintain and improve the performance of essential services: electricity, gas, water and telecommunications. Technology that allows us to work at a distance, bring remote and urban areas closer together and help safeguard the environment. ICL Information Technology. IT Systems and Services that support your way of life

Robert Palmer of Digital Equipment - interview by Paul Taylor

# Alpha the leader in the 64-bit revolution

### The instigator of a remarkable turnaround in fortunes sees positive benefits for the arts, education, and science from recent advances in computer power

Just a few years ago when it was hemorrhaging cash, Digital Equipment, the second largest computer group in the world after International Business Machines, was being written off by many in the IT industry as another high-tech disaster.

Following its early success with proprietary Vax minicomputers, Digital's failure to adapt to the new world of open systems and PC-centric computing in the late 1980s brought the company to the brink of bankruptcy.

But, under Robert Palmer, who became president and chief executive of the Maynard, Massachusetts-based group in October 1992 and was elected chairman in May last year, Digital has staged a remarkable turnaround.

"When the paradigm shifts like it clearly did from vertically integrated computer companies to open systems and PC economics, the longer you postpone recognising and dealing with that reality, the more painful it is," says Palmer, an accomplished electronics engineer in his own right.

"It was very painful for Digital but we've got that behind us now," he says. In its fiscal 1995 year ending July 1, the group posted its first profit since 1980, turning a \$519m



Palmer: 'Alpha is a key strategic investment area for Digital'

loss the previous year into a profit of \$123m in 1995. Revenues grew by \$390m to \$1.38bn, even though the group's employee numbers have dropped to 61,500, less than half the peak level.

Earlier this year, the company confirmed its return to financial health by reporting its sixth successive profitable quarter and strong profit growth, helped by demand for its high-performance Alpha systems. These have garnered in more than \$7bn in revenues since their launch in 1992 and have become established as the leading 64-bit architecture.

Before joining Digital in 1985 and becoming vice president of the semiconductor operations the following year, Palmer, a native Texan with a degree in mathematics and a post graduate masters in physics, had in 1969 co-founded Mostek, the pioneering US semiconductor group, now part of United Technologies.

The computer industry has over the past few years, he says, gone through a difficult transition from an environment characterised by vertically integrated companies that essentially designed all elements of the computing solution internally, to a disaggregated environment typified by horizontal competitors. This

"This trend will continue because it offers customers more choices, more flexibility and the opportunity for increased efficiencies in their operations."

Nevertheless, Palmer acknowledges an enormous increase in complexity. "Many enterprises today are trying very hard to do business anywhere, anytime, using an interconnected workforce deployed throughout the world.

In order to realise the benefits of internetworked commerce, he argues that companies have a greater need than ever before to develop the capability to integrate or buy an integrated system that will connect users to other users within the enterprise; connect all users to vital data and information; and connect to supplier, partners and customers.

For many organisations client/server computing is the first concrete step for moving towards this kind of connectivity. "But consider an example of how client/server really plays out today," he says.

"You've got 30 years of data on a mainframe or minicomputer, on MVS or VMS. In the glass house... and you are trying to implement SAP R/3 throughout the organisation, but it is available only on Unix... and nearly every department has a Windows-based desktop... and you've got three different wide-area networks linking dozens of LANs."

"This represents a typical large customer set-up in today's real world. Variations on this theme are seen in large, mid-sized and small businesses. In each case, the problem is the same: computing environments that don't communicate effectively - or maybe not at all. We call this the client/server chasm, or the connectivity chasm."

"What customers want is a black box, metaphorically speaking, that allows them to integrate all of the enterprise resources: makes all of those resources available to any desktop as desktop objects in the user's preferred graphical interface; and makes the whole implementation robust, dynamic, flexible, transparent and secure - while at the same time protecting existing IT investments."

In addition to internal connectivity, customers also want and expect "to be able to connect outside their enterprises, to suppliers, prospects, their customers and so on with the same flexibility, transparency and security. This all represents quite a challenge for the information technology industry. For Digital, Palmer says, "it represents an enormous opportunity".

He says Digital will address this opportunity through a three-pronged strategy. Firstly, it will choose four market segments - components, system platforms, connectivity software and client/server services - in which to compete.

Secondly, it will focus Digital's systems integration capability on large customers in

targeted industries, so as to address the increasing complexity inherent in a segmented marketplace.

Thirdly, and most crucially, resources will be committed to solving the black box connectivity problem. By the end of the decade Digital estimates that 95 per cent of its customers will be using three systems - Unix, Windows NT and proprietary systems as they integrate their businesses.

Palmer sees Digital's much heralded alliance with Microsoft covering Windows NT, together with its Alpha technology, as being crucial to this strategy.

He firmly rejects suggestions from some market analysts that Alpha is an expensive diversion.

"Alpha is a key strategic investment area for Digital," he says. It has given the group a technological lead in the increasingly competitive world of high performance computing, and "a truly competitive differentiation - the ability to complement our Intel platform offerings, enabling us to offer customers an unequalled line of scalable systems with Intel or Alpha processors, from notebooks to clustered, SMP mainframe-sized servers."

"Alpha allows us to be competitive at the high end and in the mid-range, and in a way that significantly differentiates us from our competitors. We have paid for EV5 (the Alpha manufacturing facility which cost \$425m), whereas most competitors have yet to provide their 64-bit systems."

Palmer sees the move to 64-bit computing as inevitable. "High performance computing is a requirement in a growing array of business applications from interactive video servers to systems for technical computing and simulations," he says.

The demand for 64-bit computing power is being driven by power-hungry applications such as multimedia, visualization, simulation and modelling, 64-bit database software, decision support, data warehouse and OLTP applications, Internet and interactive video servers.

"It is not just that we are seeing traditional business operations being done faster and more efficiently, although we are. We are also seeing the possibility of entirely new capabilities, like cost-effective video-on-demand and cellular fraud detection - possibilities enabled by Alpha technology." More generally Palmer believes the trends under way in the IT industry such as the convergence of communications and computing and the increased availability of affordable communications bandwidth are creating incredible opportunities.

The opportunities, he believes, "are very positive for society, are going to bring results in education, in the arts and in the sciences. We are extremely fortunate to be part of an industry that has an extraordinary opportunity to contribute to the wellbeing and future prosperity of the world - and also be able to make a business of it."

Profile: Ed McCracken

# A profitable passion for innovation

By the year 2007, says Ed McCracken, "we expect to see a 10,000 times change in the price/performance of computers"

The current Cray super-computer performance will be available on a \$10,000 system by then, he says - "when performance changes by a factor of only a hundred, it changes the entire paradigm of the architecture and applications. At Silicon Graphics we make sure that we understand the new paradigms first".

Silicon Graphics' strategy is to innovate at the high end and have clear leadership position. "This gives us access to the best and brightest thinkers in the best companies," he says. "We can listen and learn and invent new technologies. We exploit them in the first three to five years, when marketing opportunities can be realised. We add value to our customers' business which allows us to be very profitable."

After five years, new technology becomes a commodity

Innovation is the driver which makes Silicon Graphics one of the fastest-growing and most profitable computer companies in the world. Ed McCracken, the chairman and chief executive, is interviewed here by Rod Newing

Department project at Stanford University which developed the idea of building graphics into silicon chips. The idea current at the time was that a computer should look like a desktop, hence the Macintosh. However, the team wanted to view the world in a three dimensional space, which they thought would become a new computing paradigm. A venture capitalist read an article about this vision in a local newspaper and offered \$500,000 to develop it.

Silicon Graphics believes that there will be a strong demand for their type of powerful computers because of the move from text and numbers to pictures, three-dimensional graphics, audio and video.

"With these, the demand for performance goes up by 100 to 1,000 per cent," he says. "A passion for innovation is impor-

tant to success... all the hardware we are selling today has been invented in the last two years and sold into markets which didn't exist a year ago. To achieve this level of innovation we put our best technologists next to our best customers and top universities. They can come up with new paradigms which are not linear projections of current concepts, but provide a non-linear breakthrough."

Silicon Graphics has a vision of 2007, but they do not take it so seriously because the market is moving at chaotic speed - "we need a passion for speed as well as innovation, because there is no long-term competitive advantage in the IT industry," he admits. "Slaying 'current' is not enough. You must be at the leading edge of technology. We need to get products out early in the window of market opportunity if we are to beat Microsoft and Intel."

"The company invests 11 to 13 per cent of revenue in research and development compared with an industry average of about 6 per cent. Those companies which rely on Intel and Microsoft for their innovation only spend 2.3 per cent," he says. "We don't have big departments of thinkers. We do what we call 'just in time research'. When we understand a problem, we develop and implement a solution as quickly as possible."

Silicon Graphics started with no concept of multimedia, but in the late 1980s it incorporated digital multimedia into its systems. It was also one of the first companies to move to symmetrical multi-processing as a way to bring more power to graphics. This brought the

company into the super-computer market, where it achieved success by concentrating on scaleable systems. Companies were unable to predict the performance they needed, so more processors could be added.

"This allowed us to buy Cray Research for a good price," says Mr McCracken. "They have some good customer and government relationships and great technology, but most of all, they have a good brand name. Cray means more the further you move from Wall Street I've talked to hundreds of Cray customers and their name has a good cachet."

"Cray" will be a brand name for the merged companies' most powerful systems. Cray Research had to have a range from the most expensive systems to a desktop, but now the Cray team can focus their resources at the top and with a more specific market sector.

They will not need to worry about the lower end of the market, which the Silicon



McCracken: 'Innovation often generates unexpected results' - and we are very attuned to the unexpected'

Graphics' team will exploit. The combined company will supply a full range of systems from a \$5,000 Silicon Graphics workstation to a \$20m Cray super-computer.

"In five years, people will still be able to say 'I just bought a Cray' and it will mean something - the fastest super-computers in the world," he says. "Our key objective is to work hard to provide tools to make software easy to transfer between Silicon Graphics and Cray systems."

Mr McCracken admits, however, that this deal of investment in research and development. Silicon Graphics already has working relationships with Cray because the companies have common customers.

Silicon Graphics have been described as "the eyes of Cray" because its systems have been used as a front-end to Cray super-computers. Most importantly, there is respect between

# The company that created Jurassic Park's dinosaurs

Silicon Graphics is the world's leading manufacturer of high performance visual computing workstations, servers and super-computing systems.

The company was founded in 1982 in Mountain View, California, by James Clark, a professor at Stanford University to pioneer the three dimensional visual computing capabilities he had developed. Silicon Graphics now offers a full range of systems from desktop workstations to servers to super computers, all of which can run the same software applications.

Silicon Graphics has been growing at 45 per cent each year and recently announced an agreed merger with Cray Research, the world leader in large-scale super-computing. These advanced systems are

capable of calculating thousands of millions of arithmetic calculations per second.

The combined companies will have a turnover of \$4bn. Silicon Graphics achieved widespread fame when its systems were used to create the animated dinosaurs in Steven Spielberg's film, *Jurassic Park*.

Ed McCracken joined Silicon Graphics as chief executive in 1984 after 16 years with Hewlett Packard. He is co-chairman of President Clinton's National Infrastructure Advisory Council, which advises the US administration on a national strategy to accelerate development of the information superhighway.

Last year he received the National Medal of Technology from President Clinton.

**Silicon Graphics**

Share price (\$)

Source: Datastream

growing market.

"The market for innovative thinkers trying to gain competitive advantage is growing very rapidly," concludes McCracken. "Our company uses human talent to innovate quickly to meet this demand. It allows us to be the fastest growing and most profitable computer company in the industry."

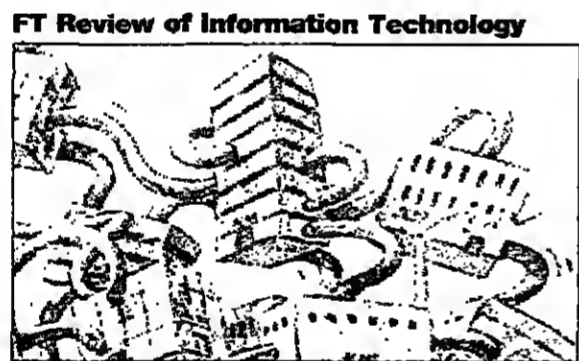
### FOOT

**Fax-U-Back Information Service**

For details of forthcoming issues of the FT Review of Information Technology, UK callers may use the FT-IT Fax-U-Back Service. Details include editorial synopses of future issues and writers for various themes. The fax number to call is:

0990 209 903

For callers outside the UK, the fax number is 44 990 209 903



**FT Review of Information Technology**

Commissioning editor: Michael Wilshire

Writers in this issue (volume two, number three) include: Paul Taylor, IT Correspondent; Louise Kehoe, Nuata Moran, Tom Foremski, Rod Newing, Philip Manchester, Michael Dempsey, John Kavanagh, Geoffrey Narm, Jola Shillington, Geoffrey Wheelwright, George Black, Martin Dickson, Laura Tyson

Graphics: Robert Hutchison and Steven Bernard  
Illustrations: Ingram Pinn (cover), John Springs and Roger Beale  
Picture research: Patricia Lee and Matthew Glynn  
Statistical research: Keith Frey and Asifa Juma

New subscription service: readers of the FT-IT Review can now ensure they receive their own copy by post. Full details appear on the back page of this review.

The next issue, May 1: This will include the following main themes:  
Focus on mobile computing  
IT Directions: Computer-telephony integration.  
Software: Voice recognition and translation.

The June 5 issue  
Main focus: IT in sport and the Olympics.  
Plus: focus on IT in manufacturing.  
IT directions: business strategies for the network-centric computing era. (See also page six of this issue for details of a London symposium on June 7, on this theme).  
IT directions: ATM technology and fast switching.  
Software: risk management.

For advertising details contact:

In London:  
Simon Larter, Dominic Morgan, FT Advertising Department: telephone (+44) 0171 873 4129 or fax (+44) 0171 873 3062

In the US:  
New York: Gavin Bishop, telephone (212) 745 1342  
San Francisco: Nick Mayle, tel. (415) 637 9775

Financial Times, Number One, Southwark Bridge, London SE1 9HL.

Pressures on IT entrepreneurs: profile by Martin Dickson

# The maturing of Michael Dell

A shift in company culture is being translated into renewed growth in sales and strong cash flow

In corporate as in personal life, adversity can be very character-forming. Four years ago, when Dell Computer was being hailed as one of America's fastest-growing companies, a harsh, anything-is-possible self-confidence pervaded its Texas headquarters. Then came a brush with disaster which made the company confront its own shortcomings.

It shook itself up, regained its poise and is now one of the world's most successful personal computer manufacturers - but with a new maturity, and a much greater respect for management planning and

financial discipline.

Nowhere is the change more evident than in the person of Michael Dell, its whirlwind chairman, who began the business in his college room in the early 1980s and is still only 31 years old.

Rather than pursuing headlong growth for its own sake, Dell now peppers his business presentations with a new slogan, amassing of financial caution: the company's goal, he says, is "to balance liquidity, profitability and growth."

The company's difficult patch highlights a common, and potentially fatal, managerial problem: the entrepreneurial business which finds its executives and systems cannot keep up with its rapid expansion.

Dell grew remarkably fast because it spotted an unexploited gap in the computer market: selling PCs directly to the customer by phone, cutting

ont the middleman, and backing this up with a strong after-sales service. Its sales rose from \$54bn in the 1991 financial year to \$2bn in the 12 months to January 1993.

But then came a string of problems. It had to cancel a proposed new range of notebook computers when it realised the products were not competitive. Its chief financial officer resigned; and it got into a spat with a Wall Street analyst over its accounting practices. Its share price plummeted.

With the benefit of hindsight, Michael Dell pinpoints three big weaknesses. First - and ironically for an information technology business - the company lacked adequate information systems.

"We didn't have a good understanding of the segment profitability of the business,"

Continued on page four

Michael Dell, 31, places "a much higher priority on planning... and in the way we're running the business, and in balanced results"

Desktop computing

Battle for the desktop

# Dynamic forces at work

While user-companies are increasingly concerned about network management and the cost of running IT systems, hard-pressed suppliers in the personal computer market are discovering that success often has more to do with marketing, distribution and sheer size, than with technological innovation and prowess, reports Paul Taylor

First the standalone personal computer, and now the networked desktop PC has helped transform corporate data processing and reshaped business computing and communications in recent years. Now, as the millennium approaches, the desktop PC industry is being moulded by new and dynamic forces.

"Over the last decade, the PC has evolved from a standalone personal productivity device into a widely connected information tool, and is becoming the centre of business communications," notes Intel, the US semiconductor group whose microprocessors power more than 80 per cent of desktop machines.

"PCs are already used to send faxes and e-mail, to share databases and automate workflow, even to hold long-distance meetings through videoconferencing. The resulting boon to productivity is spurring strong demand for further PC/communications applications."

The PC has become "a strategic, as opposed to a productivity tool", says Andreas Barth, Compaq's European senior vice president.

Last year, with around 58.2m PCs sold worldwide, PC sales accounted for more than 60 per cent of the estimated \$168m spent on data-processing.

"The trend of computing power has radically moved away from mainframes to the

## Years of PC price wars have taken their toll on suppliers' profit margins

desktop, and has caused a surge in spending on PCs, networks and software," says Dataquest, the market research firm.

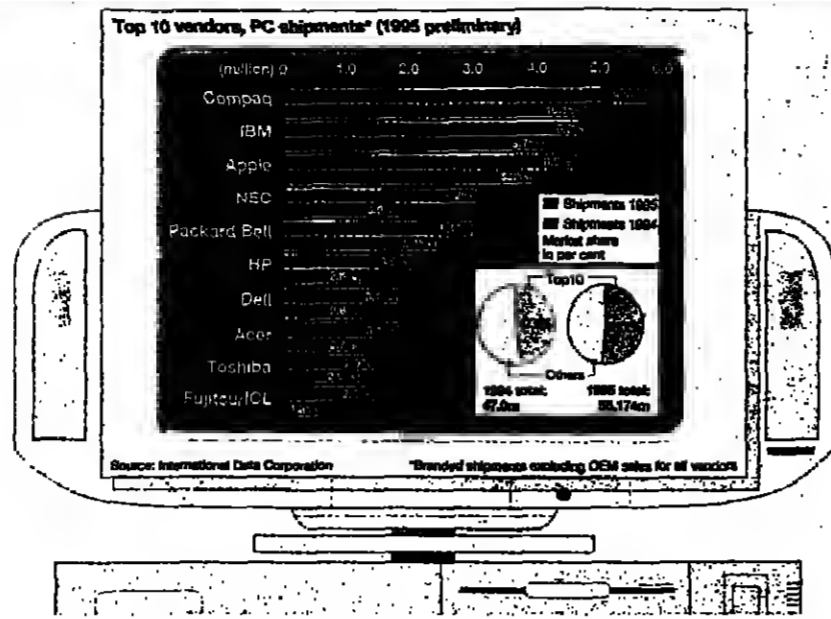
Although there are now signs that the mainframe market is being rejuvenated somewhat through the use of cut-price complementary metal oxide semiconductor (CMOS) technology, the shift to PCs and complex client-server computing in particular, has thrown a spotlight on the cost of ownership of PCs themselves as corporate buyers have become increasingly concerned about obtaining value for money from their spiralling IT spending.

In response, leading PC vendors such as Compaq are building more advanced management and other features into their PC and server ranges. "The issues that concern our customers are network management, lifetime management and the cost of ownership," says Compaq's Barth.

The US-based Gartner market research group has calculated that on average, the five-year cost of networked PC ownership had risen from \$19,000 in the mid-1980s to more than \$40,000 today.

In fact, only a fifth of the total cost associated with networked PCs is related to the

Worldwide PC sales



Indeed, further consolidation appears likely following the three-way deal announced last month under which Packard Bell, the US home computer supplier, will receive \$283m cash infusion from the NEC of Japan and acquire the assets of Groupe Bull's struggling Zenith Data Systems unit.

The deal, which could eventually lead to NEC owning a majority stake in Packard Bell, could become the model for a new generation of PC market

leaders as the industry is reshaped. As a privately-held company, Packard Bell does not report its financial results, but industry analysts say that the company lost money last year. But Packard Bell is hardly alone among PC manufacturers in facing problems.

Within just the last few weeks, ICL has folded its loss-making PC operations to its parent, Fujitsu. And Escom, the once high-flying German

PC manufacturer and retailer, faced with a falling market share and big losses, has replaced its founder and chief executive.

AST Research, a one-time high flyer in the US PC market, has recorded losses for the past 18 months and shows no signs of a short-term recovery. Earlier this year, Samsung, the Korean electronics group, took control of AST's boardroom, highlighting the trend of Far Eastern component suppliers to



## Stylish exercises across 12,000 miles

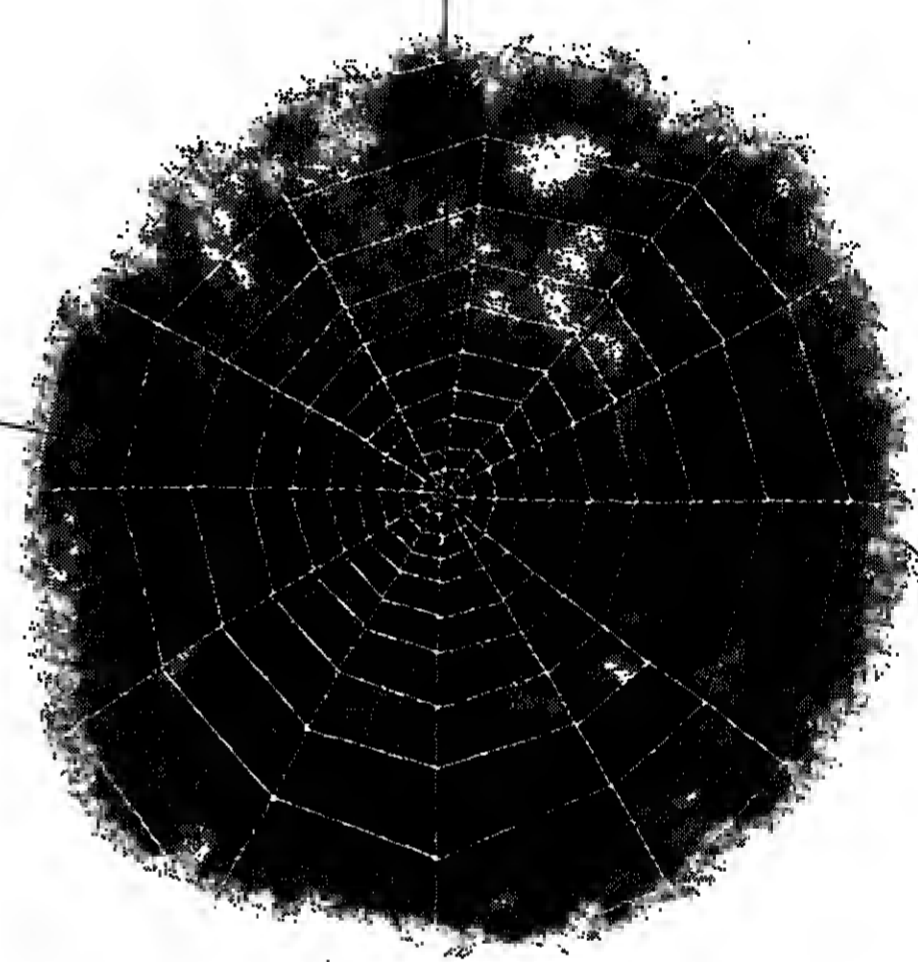
Janet Birrell, pictured above, a lecturer in hair-dressing at Hailton College at Widnes, Cheshire, demonstrates a technique of human hair extensions to a class of ten hairdressing students and lecturers at Otago Polytechnic, New Zealand, via BT's PC Videophone.

Despite the distance of 12,000 miles, the face-to-face video link was fully

interactive with question and answer sessions. Britain has been at the forefront of human hair extension techniques for the last two years, says Janet.

□ Rapidly rising sales of videoconferencing systems, based around PCs, will be 90,000 this year, rising to 180,000 next year and 350,000 by 1998, say market analysts. See report on pages 12 and 18

Continued on next page



# The journey ahead

is momentous, remarkable and full of hazards. Choose the most careful and experienced guide.

The Worldwide Web of today's Internet offers a tantalising foretaste of even greater wonders to come. Soon, the ability to access and exchange any combination of text, data, voice messages, sounds and moving images instantly will be commonplace. But while a net can be a great gatherer of riches of all kinds, can it not also be a snare for the unwary? At NEC we have no such fears. Our Multimedia Office System is already demonstrating the future: mobile computing seamlessly combined with multimedia on demand and multimedia collaboration is now a reality. It's the result of over 20 years experience in integrating computer and communications technologies. In fact, thanks to our long-term investment in research and development, we are unique in having expertise in every aspect of multimedia. So when you're looking for a guide through this new world, remember NEC has shaped every step of its evolution.

So when you're looking for a guide through this new world, remember NEC has shaped every step of its evolution.

Do you think your desktop will survive the next twelve pages?

For further information, please contact:  
 NEC Corporation, Overseas Advertising Division, 7-1, Shiba, 5-chome, Minato-ku, Tokyo 108-01, Japan. Fax 81-3-3798-6333.  
 NEC Europe Ltd, NEC House, 1 Victoria Road, London W3 6UL, UK. Fax 44-181-235-4942.

the multimedia @volution  
**NEC**

سكوا من الأصل



Desktop computing

Workstations - By Rod Newing

# Route to more creative use of computing power

As PCs offer increasing power at lower cost, workstation vendors are continuing to provide competitive advantage to users through technical innovation

Innovation, not power, is the key to understanding the desktop workstation market. In this market, it is assumed that all products have the ability to provide a high degree of computing power. Power has almost become a commodity in the IT industry, offering little in the way of competitive advantage.

With the increasing use of Pentium and Pentium Pro processors running Windows NT, the workstation vendors must increasingly depend on their ability to innovate to protect their markets.

The workstation market offers competitive advantage to users through innovation in two ways: firstly, it introduces innovations not previously seen in computing, which are then passed on to the PC market. It also acts as a link in a chain of innovation, taking up innovations from the super-computer market, bringing them to the desktop and passing them on to PCs later.

As the testing ground for new technology workstations are important to the continued development of the PC market. Far from being threatened by the increasing power of the PC, the workstation vendors see themselves in a strong position to continue to compete.

"Desktop workstations are more complimentary to PCs than competitive," says Andrew Cresci, UK marketing manager for Silicon Graphics. "We invest 10-15 per cent of our turnover in research and development, which is high by industry standards, to create products which do not yet exist in the industry. An innovation may start on a supercomputer, but within two years it would be available on a £30,000 workstation. Eighteen months later it would have worked its way down to £5,000-10,000 workstations and two years later would be available on PCs."

An example of innovation in this market is the incorporation of multimedia technology. Silicon Graphics have re-designed their Indigo workstation to include full multimedia support, especially video-conferencing. A video camera is built into the entire architecture of the product has been designed to eliminate bottlenecks in the very high data flows which video causes. Video and audio editing software is pre-installed so that users can work with their media from day one.

Controversially, Sun Microsystems have taken multimedia integration a stage further by incorporating multimedia support and graphics acceleration into the processor in their new 64 bit Ultra workstation. "Processor speeds are growing faster than any other component, so we are making this speed available to users," says Chris Saras, Sun's Workstation Product Manager.

The Ultra incorporates a cross-bar switch instead of a conventional 'bus', an approach inherited from super-computers. It also includes frame buffer technology to store graphics in three dimensional random access memory. Jointly developed with Mitsubishi, this approach increases graphics performance by a factor of ten.

These innovations bring big benefits to users for little extra cost - "once we have recovered the up-front development costs, we can make these innovations available at no additional cost," explains Mr Saras.

But it is important to realise that the benefits of these innovations may lag their introduction. The vendors make their innovations available to software developers, who then have to produce software to exploit these advances.

"As a result of our multimedia support on our processors, we expect to see developers providing video help instead of hypertext," predicts Mr Saras.



Silicon Graphics has introduced the Onyx 'InfiniteReality', claimed to be the world's fastest and most innovative visualisation supercomputer, able to process graphics, imaging and video data in real time

Mr John Saw, Hewlett Packard's technology marketing manager, warns: "The big challenge is for companies to pick the right technology and use it effectively, rather than just because it's the latest fashion." "A good example of the effective use of high performance graphics technology is video animation, which has cut down the time and cost involved in producing spectacular scenes in films."

The cost of a workstation, which ranges from £5,000 to £50,000, is likely to be cost-justifiable for applications which deliver critical competitive advantage, such as finance, scientific, technical and creative professionals.

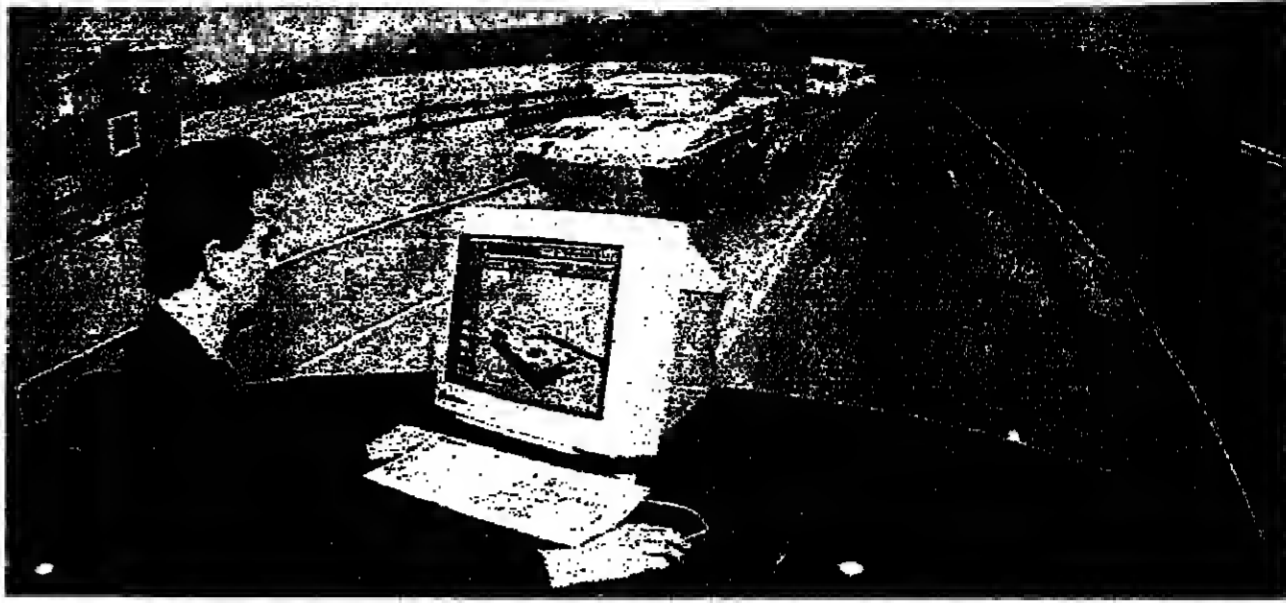
They tend to be key creators or analysts in the organisation who 'link' their brains with technology to make profits or develop new products.

Application areas where the use of workstations are growing are those which combine complexity with high security and good network ability. These include financial analysis, especially the evaluation of derivatives, network management and telecommunications.

Workstations are also used extensively in computer-aided design and games, which are covered in more detail elsewhere in this supplement. Clearly, the Unix workstation market is losing share at the lower end as the power they offer becomes matched by Intel PCs running Windows NT. The demand from users from this combination is such that the Santa Cruz Operation, who used to be synonymous with Unix on PCs, has stopped actively marketing against NT Workstation and is concentrating on the server marketplace.

The workstation vendors see the Intel and Windows NT combination as being threatened by the introduction of network computers. They see the lower end of the workstation market losing their commodity type applications to the world-wide web and serious business applications based on Java, especially when implemented on an organisation's internal 'Intranet'.

Clearly, the desktop workstation vendors are confident of their ability to compete against the threat of increasing PC performance. They will fight the commoditisation of PCs by continuing to provide innovations, either directly or by transferring it from super-computers - "the workstation market must provide features and functionality ahead of the market," concludes Mr Cresci. It is in the interests of all PC users that they succeed.



Research Reality Centre: pictured here is a wrap-around display screen, the centrepiece of a £2m demonstration and research centre for advanced interactive media, near Reading. The centre, using Silicon Graphics systems, helps UK companies develop products and applications with the latest technology. The system creates virtual environments, ranging from advanced theme park rides to road vehicles and oil rigs for safety training

Computer-aided design - By Tom Foremski in Forestville, California

# Fresh challengers emerge

The three-dimensional modelling market becomes larger and more mainstream

When it comes to high-end workstations for Cad/Cam applications, the workstations from Silicon Graphics are among the best performers, integrating fast microprocessors with three-dimensional graphics technology and a wide range of third-party software applications that enable companies to quickly design complex new products.

Silicon Graphics workstations are not the cheapest on the market but they offer good cost/performance ratios - and, for many users, the extra money spent on the workstations pays off in terms of faster product-to-market cycles and improved designs.

Silicon Graphics faces competition from workstations from IBM, Hewlett-Packard, Sun Microsystems and Digital Equipment Corporation, and at the lower end from Intel Pentium Pro-based systems. But it continues to dominate the high-end performance sector of the market and spends tremendous resources on maintaining a competitive lead.

high performance versions of its Mips reduced instruction set computer (Risc) microprocessor and a new line of workstations based on the chips. Silicon Graphics has also teamed up with Hollywood studios and entered into partnership with the movie studio DreamWorks, co-founded last year by director Steven Spielberg, to develop systems for digital based movie production.

Realism Silicon Graphics workstations achieved widespread fame when they were used to create the critically acclaimed and realistic dinosaur scenes in the film "Jurassic Park." See page two - an interview with Ed McCracken, chief executive of Silicon Graphics.

While the company's involvement in Hollywood might seem to be something of a vanity project, there is a good commercial reason for the company's work in this area - "the software that designed the dinosaurs in Jurassic Park can be adapted to modelling the shape of cars, for example. And it has. Hollywood is really driving a lot of

our technology," says Mr McCracken. The technology the company develops for Hollywood studios is useful for other types of applications in the Cad/Cam area. Improved 3-D modelling offers users a faster way to design and test new types of products.

Silicon Graphics made its name in the Cad/Cam area. From its beginnings, it has specialised in developing 3-D visualisation systems. This technology is integrated into its systems and into the Mips microprocessors it uses and designs. The latest Mips R10000 microprocessor is considered one of the world's fastest chips and it can also be used in multiprocessor systems in which several Mips microprocessors can be combined to provide supercomputer levels of performance.

As the 3-D modelling market becomes larger and more mainstream, Silicon Graphics faces challenges on the low end of its workstation range. Intel's Pentium Pro microprocessor is a very fast chip and it can be combined with the Microsoft Windows NT operating system to provide a capable platform for Cad/Cam applications. And

the fact that it is a standard platform, means that workstations can be produced relatively cheaply and it can attract larger numbers of software developers to produce Cad/Cam applications.

Forecast "Silicon Graphics workstations still hold the high end of the Cad/Cam market where facilities such as real-time 3-D manipulations are important. But at the low end, it is becoming possible to build Cad/Cam systems on Pentium Pro based platforms at a much lower cost," says Andrew Feit, senior industry analyst at Dataquest, the market research company. "Silicon Graphics used to be able to say you can't do this on a PC, but now it can't say the same thing."

As the company innovates at the high end, it eventually pushes its 3-D visualisation technology down to cheaper platforms and eventually into the consumer market - as can be seen with the Sony PlayStation and the forthcoming Nintendo Ultra 64 video games consoles that offer stunning 3-D graphics images.

At risk. You need your room to be secure.

provided by the powerful Intel Pentium processor while security and the option of dual...  
measures prevent any potential damage. For example, the...  
HP Vectra X-Line is specifically designed with several pre-loaded...  
security features. These include ROM-based serial numbers...  
PC Management keyboard and mouse lock, hardware...  
configuration, security user and administrator passwords...  
...you will have more room to think about growing...  
...year business. For more information contact your local...  
...please visit our website at <http://www.hp.com>

HEWLETT PACKARD

computing

arts



with in the r sector of market

## 6 FT-IT

## Desktop computing

Enterprise servers - By Tom Foremski

## New ways to handle the data deluge

The high-speed ServerNet really puts a stake through the heart of the mainframe

Enterprise servers provide large organisations with a way to store and distribute large amounts of data. For such tasks, mainframes have long been the traditional solution, but these systems cannot efficiently handle huge data flows.

The demands of new types of services such as video servers which process large amounts of video data at high bandwidths; plus multimedia-based databases which handle a mix of large data files; and world-wide web servers handling thousands of users - all demand fast responses and they challenge the performance of most current computer systems.

The standard client-server approach to networking computers works satisfactorily for most applications, but this type of architecture quickly runs into performance bottlenecks when companies try to increase the number of users. Client-server architectures cannot be easily scaled upwards

without losing performance.

For example, at Intel's Internet Technology Labs, researchers are investigating doing away with the standard client-server architecture and instead, using a peer-to-peer technology they have dubbed PandoraNet.

The idea with PandoraNet is to allow every PC connected to the network to act as both the client and the server. While peer-to-peer networks have been around for many years and are useful for low-performance applications, PandoraNet takes the concept much further and potentially becomes a powerful replacement for client-server architectures.

Intel believes that as PCs become more powerful, a lot of the computer power of the PC remains unused for much of the time. These so-called "spare cycles" could be harnessed for other applications such as PandoraNet. A network of several hundred Pentium-based PCs, for example, could be much more powerful than a dedicated server, and it would also make use of the unused computer processing capacity within an organisation. The key is to find a way to distribute the server functions across many PCs.

Another technology that promises to provide high performance enterprise-class computing is Tandem's ServerNet. This essentially builds a network architecture within a server in order to handle large data files and fluctuating bandwidth demands by performing very fast input/output functions. ServerNet is attracting a lot of attention because it can deal with different processors, different data storage systems

**Tandem's ServerNet is also 'a very significant technology for building clusters of computers out of cheaper PC platforms'**

and deal with various types of communications.

ServerNet is basically a very high-speed switching system that can, for example, transfer data from a storage device directly to a high communications network and bypass the processor, saving time and cost.

Theoretically, ServerNet can handle as much as 150 terabytes per second, an enormous bandwidth capable of dealing with any current computer application and setting a foundation for future applications

well into the next century. "ServerNet is a very significant technology," says Gordon Bell, founder of Digital Research Corporation and a senior researcher at Microsoft. "There is really nothing like it anywhere else. It's also a very good technology for building clusters of computers out of cheaper PC platforms. It really puts a stake through the heart of the mainframe."

Bell explained that many

companies have attempted to build similar systems, but none of the alternate solutions are as good as ServerNet. But the success of ServerNet depends on how well Tandem can establish it in the industry. Tandem says it is willing to license the technology to third parties on an OEM basis.

"We have announced agreements with Compaq Computer and NEC to use ServerNet in their systems and we expect to make similar announcements involving other large companies later this year," said Rich-

ard Hellyer, systems marketing manager at Tandem. "We are also involved in the Microsoft consortium developing standard interfaces for cluster-based systems."

Mr Hellyer says that ServerNet is available on the recently introduced Tandem S4000 Unix system. ServerNet will also be available on Tandem's Windows NT systems and on its high-end Himalaya systems.

A key feature of ServerNet, is that it supports parallel processing architectures. This involves the combining of hundreds of processors which break down an application into many separate parts in order to process the application at very high speeds. In such parallel processing systems, the connections between the processors are a key factor in how well the system operates. ServerNet speeds up these connections to create highly efficient systems.

The market and research firm, Aberdeen Group, believes that ServerNet will be useful in addressing a host of new computing challenges. In a report last year, it highlighted some of the computing challenges facing organisations: "Numerous forms of electronic commerce, from electronic data interchange to global

messaging, will demand more throughput than current processor and software-bound architectures can tolerate."

The Aberdeen report points out that "with video messaging capable of generating 10 megabytes a minute, a current parallel-scalable computer may be able to adequately process the information, but will be unable to manage the future massive throughput that could easily amount to as much as 40,000 times more than the demands of simple text-only e-mail."

Andersen Consulting, which works with large organisations around the world on solving computing problems, is also a big supporter of ServerNet. John Kunzweiler, a partner with Andersen Consulting, says: "Today, our clients are looking for breakthrough applications that effectively incorporate graphics, imagery, video and voice. This drives an incredible demand for scalability and bandwidth that has not been commercially viable."

Tandem is making a big push behind ServerNet after spending more than \$250m in its development and it hopes that it will become an industry standard and that it will help lower the price and increase the performance of large systems.

InterForum 96

## London symposium on the future of desktop computing

A European audience of directors and senior personnel from the IT-user community will bear an impressive line-up of speakers taking part in InterForum 96 in London on Friday, June 7 when the theme will be "the future of the desktop - business strategies for the network-centric computing era".

Sir Peter Bonfield, chief executive of British Telecom, and chairman of ICL, will deliver the opening keynote address. The closing address at the televised event at the Queen Elizabeth II Conference Centre, Westminster, will be given by Mr Larry Ellison, chief executive and president of the software company, Oracle.

InterForum 96 marks the launch of an annual IT symposium by Uniforum UK, in association with the Financial Times. Uniforum is a non-profit organisation with more than 1,200 members spanning the vendor, user and central

government communities.

The one-day event will also address an international audience via the FT Television service which is available to TV stations worldwide. Other speakers will include Mr Mike Brercliffe, chairman of Uniforum UK; Mr Irving Wladawsky-Berger, head of IBM's Internet Division; Mr Philip White, chief executive and president of Informix Software; Mr Keith Todd, chief executive of ICL; and Mr Javald Aziz, European vice-president of Silicon Graphics. Speakers' views will also be available on the Internet via the FT Web site.

For more details of the event, contact Ms Corinne Strong at FT Conferences, London, on tel 0171 896 2626, fax 0171 896 2626; or Mr Philip Flaxton, executive director, Uniforum UK, tel 0181 332 0446.

The FT-IT Review in June will also examine business strategies for the network-centric computing era; for more details, see panel on page two of this issue.

Commercial network servers

## Networking is moving to a new level

The growth in use of commercial Unix servers in the past year has been phenomenal, writes Louise Kehoe

Commercial network servers represent one of the fastest-growing segments of the computer industry as corporate computer users move to rapidly expand networking throughout their organisations and beyond.

While almost any type of computer can be linked to a network and called a "server", demand for multi-user Reduced Instruction Set (Risc) computers, running the Unix operating system, is soaring.

These are the "enterprise servers" that are beginning to bite into the traditional mainframe computer market, as well as the midrange computers that are used for large departmental networks and by medium-sized businesses and organisations.

The growth in use of commercial Unix servers over the past year has been "phenomenal", according to the Aberdeen Group, a Boston-based market research firm. Worldwide sales jumped 43 per cent last year to \$14.5bn, the researchers said in a report, published in February.

Hewlett-Packard set the pace for the rest of the industry by increasing its Unix server revenues by 57 per cent in 1995 to achieve a 49 per cent market share and \$7bn in revenues.

IBM ranked second, according to Aberdeen Group, with sales boosted by its new high performance massively parallel SP system. IBM's Unix server revenues were up 45 per cent at \$2.75bn, giving it a 19 per cent market share.

Sun Microsystems came in third with a 9 per cent market share, growth of 35 per cent and revenues of \$1.5bn.

With new products that will expand Sun's range into the "enterprise class" server market due out later this month, the company aims to greatly increase its sales this year.

Digital Equipment, starting with a small base, achieved a record growth rate of 73 per cent, boosting revenues to \$476m. Digital ranks sixth in the Risc/Unix server market with a 3 per cent market share.

"Enterprises are investing in these systems to increase the effectiveness of their business processes," the Aberdeen analysts said. "They have found that there is a real and significant payback."

The market analysts predict that sales of multi-user Risc-Unix systems will continue to grow at a rate of more than 40 per cent this year.

"Networking is moving to a new level," said Anil Gadre, vice president of corporate marketing for Sun's computer hardware division. "So far, the role of UNIX in the commercial market has been primarily for pilot projects and for departmental use," he noted.

With higher transaction throughput and reliability, Sun's new servers, which are scheduled for introduction this

month, will "cause the data-centre manager to say 'I don't have to buy another mainframe'", says Mr Gadre.

"This doesn't mean that companies will throw out their mainframes, but we are seeing the beginning of a long-term trend away from the mainframe."

If the Sun executive's prediction proves accurate, IBM is likely to see growth in its mainframe computer sales stall. The Aberdeen Group analysts note that the mainframe computer market grew at a relatively slow pace last year of about 5 per cent, "but it would have most likely suffered the same double-digit percentage decline as in the previous five years if users had not migrated to less costly to maintain CMOS-based systems," the analysts add.

Whether or not the mainframe is a dying breed, it is clear that multi-user Unix servers are now playing a central role in enterprise computing.

One of the keys to success in this segment of the computer market is scalability, says Mr Gadre. Many customers purchasing a network server are uncertain about the size and performance of the machine they need.

Companies building an Internet site, for example, often find it hard to predict how many visitors their pages will attract. Similarly, on a corporate network, the load on the network server is difficult to extrapolate as new applications are developed.

The leading network server vendors therefore offer a broad range of upgradable hardware that enables users to start small and grow, or pick an affordable price point.

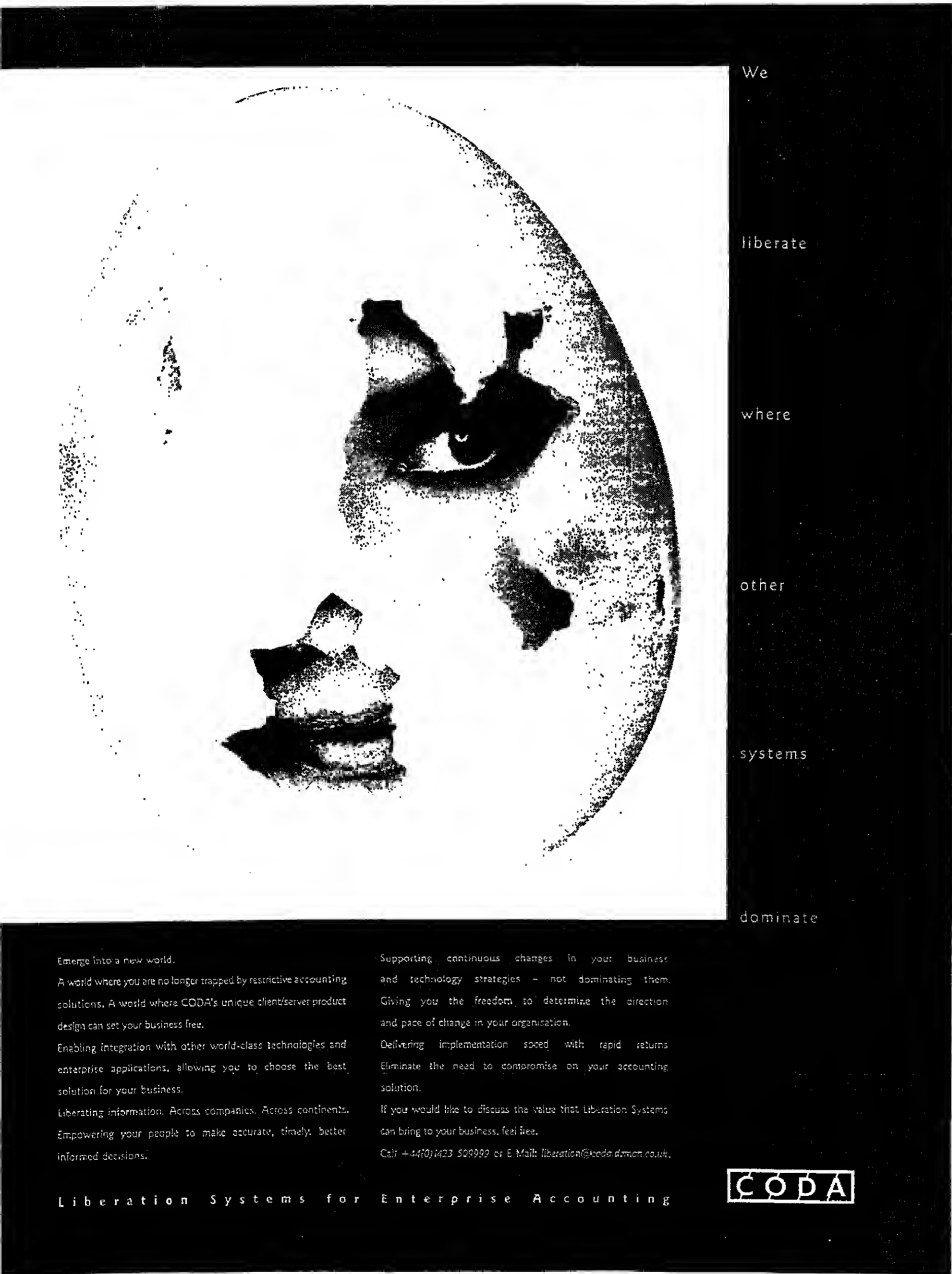
This is clearly Sun's strategy. While Sun has to date competed in the low and mid-range of the server market, it is now targeting the market for high throughput systems where IBM and HP are the dominant suppliers.

Sun's anticipated entry into the "enterprise network" market is already fueling fierce competition from existing market leaders. Hewlett-Packard, for example, has launched a pre-emptive strike, offering Sun customers special incentives to upgrade to its highest performance servers.

HP announced last month that Sun customers can trade in their equipment to win discounts of up to 30 per cent on the cost of an HP 9000 server.

"HP is giving Sun customers the opportunity they've been waiting for: an easy and supported upgrade path to the enterprise-class, scalable family of HP 9000 servers," says Carol Mills, general manager of HP's General Systems Division, as she launched HP's aggressive marketing campaign.

Even as leading computer manufacturers vie for a bigger slice of the fast-growing market for Risc-Unix servers, however, manufacturers of computers based on Intel's microprocessors - running either Unix or the Microsoft Windows NT operating system - are nipping at their heels. Both could represent a significant challenge to today's leaders in the commercial server market.



We liberate where other systems dominate

Supporting continuous changes in your business and technology strategies - not dominating them. Giving you the freedom to determine the direction and pace of change in your organisation. Delivering implementation speed with rapid returns. Eliminate the need to compromise on your accounting solution. If you would like to discuss the value that Liberation Systems can bring to your business, feel free. Call +44(0)1223 509999 or E-Mail: liberation@koda.demon.co.uk.

EMERGE INTO A NEW WORLD.

A world where you are no longer trapped by restrictive accounting solutions. A world where CODA's unique client/server product design can set your business free.

Enabling integration with other world-class technologies and enterprise applications, allowing you to choose the best solution for your business.

Liberating information. Across companies. Across continents.

Empowering your people to make accurate, timely, better informed decisions.

Liberation Systems for Enterprise Accounting

**CODA**

سونا من الامم



Desktop computing

Storage management and new media By Geoff Naim

An exploding marketplace

Desktop video systems and the Internet bring rising demands for data storage

Keen interest in multimedia and corporate server systems is fueling strong growth in the hard disk market...

Network server storage needs are growing at 60 per cent a year as networks replace mainframes as repositories of corporate information.

higher capacity hard disks. Today, a single gigabyte (GB) disk for a PC costs less than \$150.

such as Seagate and IBM, have adopted the same strategy. IBM has turned round its once-ailing storage products division...

face (SCSI) technology to transfer data at higher speeds. PC drives, while two to three times cheaper, have traditionally used a slower interface technology called Integrated Drive Electronics (IDE).

Big requirements

"Thanks to keen interest in applications such as desktop video and Internet, the storage market is exploding," says David Trussler, IBM European marketing manager for storage products.

Western Digital, the US manufacturer most reliant on PC disks, plans to belatedly enter the "enterprise storage" market in September...

The drive costs £150 while the 3.5-inch Zip disks cost £17 and can store the equivalent of 70 floppy disks...

Removable magnetic and magneto-optical drives fill a gap between traditional hard disks which are fast but relatively expensive and cheaper storage, such as tape drives...

This concept of hierarchical storage management (HSM) comes from the mainframe world and is becoming increasingly important for desktop computer users...

The US company Cheyenne Software sells a product, Cheyenne HSM, that after 90 days of inactivity transfers dormant files from Novell and Unix networks to optical disks...

Cheyenne HSM costs from £5,100 (£7,000 for Unix) while IBM has a similar product, called ADSM, which typically costs £6,000.

"Back-up awareness is low with home users, even though they may have their home finance files on the PC," he says.

Despite the growing importance of storage management and new media, the industry's main focus continues to be

Standards in networking By George Black

Network managers face a hard choice

Novell, the software company, has recently changed its strategy against arch-rival, Microsoft

ware. Market research companies have predicted that Windows NT will gain a steadily larger share of the operating system market at the expense of both Netware and Unix.

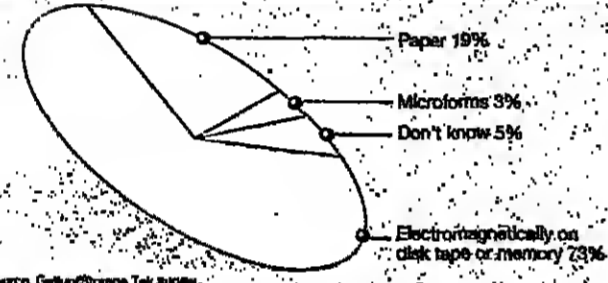
NT's strengths as an application server make it more suitable for managing business-critical systems such as e-mail and groupware.

ones, then Netware may retain its supremacy. Some analysts doubt whether from a technical standpoint standardising on Windows NT would be the best solution for network managers at present.

comparable to that on the telephone system before direct dialling was introduced. Both Microsoft and Novell are striving to develop their operating systems to make it easier for network managers to achieve such an integrated directory.

for at least another couple of years. In the middle of this year Microsoft will enhance Windows NT by adding to it the graphical user interface of Windows 95.

Disk storage



Although advanced technology exists for storing data electronically, the cost and scale of projects and the time taken to bring new systems on line were perceived to be the key considerations in a new survey among 100 IT directors in UK companies...

WE COULD ALL USE MORE

SPACE

COMPAQ

Notebooks, like desks, never seem to have enough space. Unless, of course, you've got the new Compaq LTE 5000, in which case all you have to do is slot in the additional hard drive to get a massive 2.7 GB storage capacity.

Alternatively, you can take advantage of the front-loading MultiBay to insert a CD-Rom drive, a second battery pack or a 3.5" diskette drive. You can even connect the LTE 5000 to your network with an optional MultiBay Expansion Base.

Telephone us on 0990 23 24 25 for more information about the Compaq LTE 5000. If you want the most advanced notebook around, you'll find there's no room for compromise.

Send to Compaq Computer Limited, FREEPOST, PO Box 2, 47 Ashbury Road, Thame, Oxon OX9 2JH

Name / Mrs / Ms (initials) \_\_\_\_\_ Title \_\_\_\_\_ Company \_\_\_\_\_ Address \_\_\_\_\_

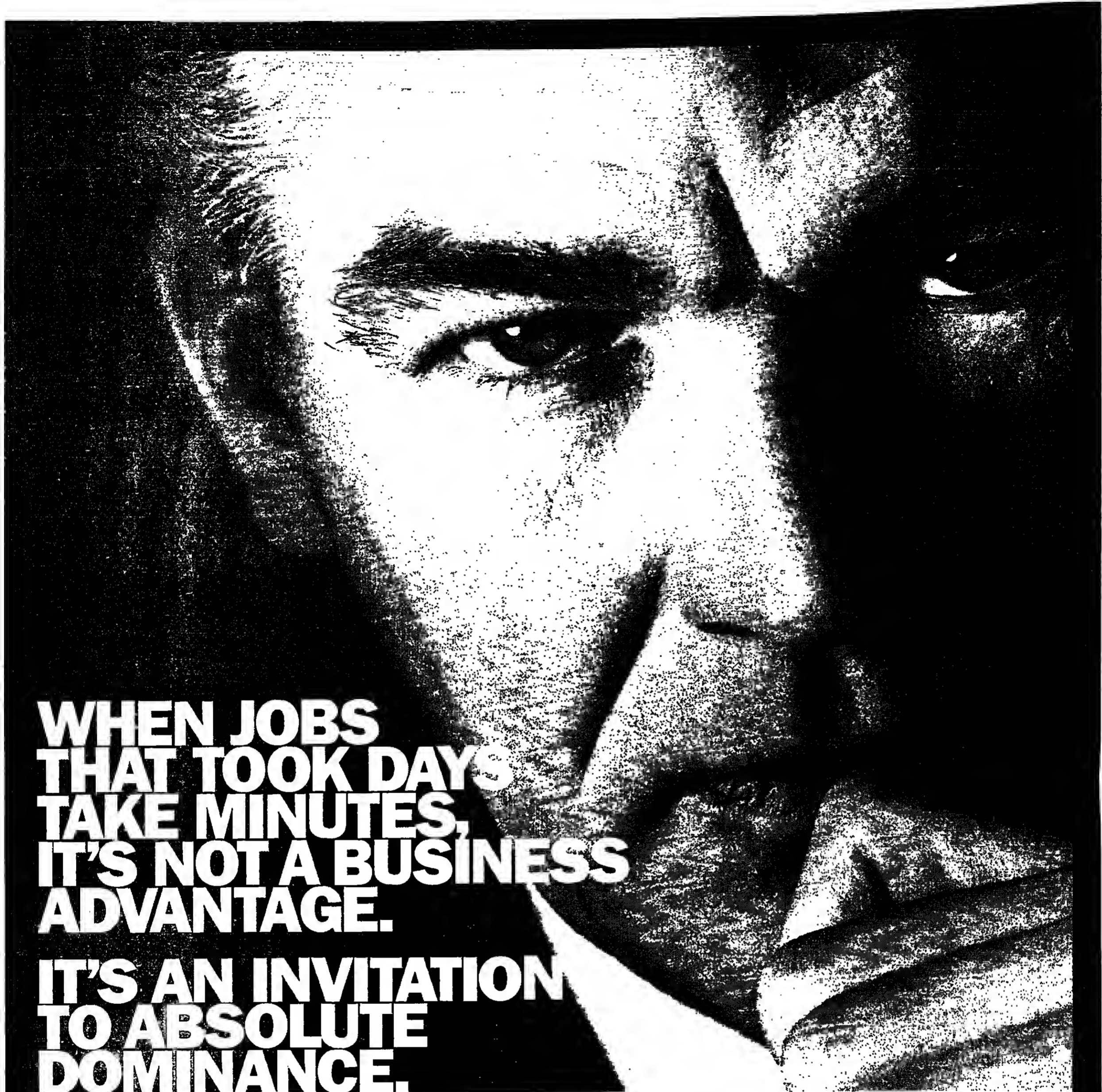
Postcode \_\_\_\_\_ Telephone \_\_\_\_\_

No. of employees at your place of work \_\_\_\_\_

We'd like to advise you of future products and offers. If you do not wish to receive them, tick here:



2.5" floppy drives 2x 3.5" floppy drives 1.44 GB hard drive 486DX50 processor



**WHEN JOBS  
THAT TOOK DAYS  
TAKE MINUTES,  
IT'S NOT A BUSINESS  
ADVANTAGE.  
IT'S AN INVITATION  
TO ABSOLUTE  
DOMINANCE.**

*You're cordially invited to keep warehouses of information at your fingertips. Turn queries*

*that were once a waste of time into*

**VLM64 TECHNOLOGY.  
INFORMATION IN OVERDRIVE.**

*market leverage. Command 4 billion times the memory of 32-bit systems. And reap the*

**digital**

*unparalleled database power of our VLM64 technology. To reserve*

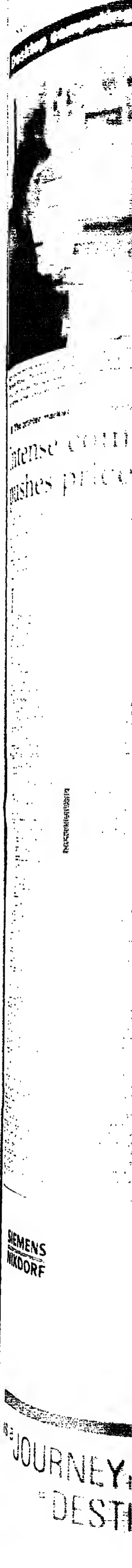
**WHATEVER IT TAKES™**

*your place, call +31 10 2588877, fax us at +31 10 2588878, visit us*

*at <http://www.digital.com> or e-mail to [moreinfo@digital.com](mailto:moreinfo@digital.com). The honor will be all ours.*

©1996 Digital Equipment Corporation. Digital and the DIGITAL logo are trademarks and Whatever It Takes is a service mark of Digital Equipment Corp.

صحة من الامل





■ Groupware products - By Joia Shillingford

# Wider opportunities for collaborative computing

The Internet is likely to change the way that co-operative computing is carried out

The distinction between groupware and other products is becoming blurred. First, because products not normally thought of as groupware are now including groupware features. And second, because groupware products are straying into other areas. Another big change is that the Internet is making co-operative computing easier.

Roger Whitehead, director of Office Futures and editor of the *Groupware* newsletter, defines groupware as "software or a system that helps people collaborate".

Mr Whitehead says products such as Duo & Bradstreet's SmartStream finance and personnel system for large companies, have good groupware built in. So, too, are computer-aided software engineering packages, which often allow shared editing.

Meanwhile, groupware products are broadening in scope. An add-on videoconferencing product is available for Lotus Notes, the text-conferencing product owned by IBM.

Improvements are also taking place among workflow products - a type of groupware designed to control the flow of work in a team. Traditionally, a supervisor could adapt the workflow software to change the flow of work between a group of users. But using ICL Teamware Flow, the group doing the work can define the flow.

This gives more flexibility and has the added benefit of creating a corporate memory. Next time, the same team (or another) needs to carry out similar work, the company can look back at how the project was organised last time. It can look at what information was involved, where it flowed, and what kind of output resulted.

This is a much richer source of corporate memory than just a copy of the finished document. Moreover, sub-processes can be altered by a regional team without affecting a central business process.

The addition of new features to groupware products means that suppliers can enter new markets and users need to buy fewer products.

"Lotus Notes is the king of the groupware market," according to Mr Whitehead.

"But Microsoft Exchange, a rival product, should be out around end-March this year." He says the main difference between the two products is

that Lotus Notes is groupware with some e-mail, whereas Microsoft Exchange is e-mail with some groupware, see report, right.

The Internet, the global e-mail and information network, is likely to change the way that collaborative computing is carried out. "At the moment, the World Wide Web (WWW) area of the Internet is seen as an information distribution system," says Mr Whitehead. "But over the next few months it will become clear that it is really a distributed computing system."

### Bulletin boards

Digital Equipment sells bulletin board software called WebForum that can be installed on a Web server (computer) and used to create, say, a customer focus group for a company's products. Or if Web technology is being used to link different in-house systems, WebForum could be used to create bulletin boards for staff.

It is also possible to do videoconferencing over the Net, provided that both parties have suitable software and a tiny video camera attached to their PC. (See pages 12-13). US-based White Pine Software sells videoconferencing software called CII-SeeMe, developed at Cornell University. Telephony can be provided

over the Net using products like RealAudio, Vocaltec or Netmanage's audioconferencing module which let you make international calls at local rates. But expect a delay of at least a second, and lower speech quality.

Dan Geisler, vice president international marketing at Netmanage, believes telephony over the Net comes into its own for business users when they want to look at a piece of work on one of their screens (using Whiteboarding software) and discuss it at the same time.

"We're also starting to see groupware on the Web, and though no-one has got workflow over the Web, that will come," says Mr Whitehead.

Microsoft, Lotus, IBM, Novell and others are starting to incorporate some of the capabilities of the World Wide Web into their products. And to think about how developments, such as Sun's Java programming language for the Internet - which enables users to download small task-specific applications - affect them.

By next year, if not sooner, the World Wide Web will become part of the arrangement for computing in general, says Mr Whitehead. So companies need to look at how that is happening will affect their plans for collaborative computing.



ICL's Teamware delivers the ready-to-use groupware applications that are being increasingly demanded by today's organisations

■ Groupware battleground - By Louise Kehoe in San Francisco

## 'Killer' program faces challenge from the Internet

Delays in the introduction of a 'production version' of Microsoft Exchange have also weakened the company's efforts to penetrate the groupware market

Two years ago, Microsoft's "Exchange" program was heralded as the "Lotus Notes Killer". The new Microsoft "groupware" would deliver a body blow to Lotus Development's competing Notes program, industry analysts predicted.

Since then, the battleground has changed. Even as Microsoft edges closer to the formal launch of its Exchange server software, the so-called "killer" program faces a new market challenge from the giant Internet.

While Microsoft Exchange and Lotus Notes were originally designed to run on private networks, companies are increasingly adopting the standards and software of the Inter-

net's World Wide Web for internal use on so-called "intranets". This trend threatens to undermine the entire market for proprietary groupware.

In another significant development since Microsoft began to promote its Exchange software, Lotus Development has been acquired by International Business Machines and is now operating as an IBM subsidiary, making it a potentially more formidable rival.

Long delays in the introduction of a "production version" of Microsoft Exchange have also weakened the company's efforts to penetrate the groupware market.

Microsoft continues, however, to promote Exchange. The program has been deployed by more than 40,000 customers in government, corporations and educational institutions. Microsoft announced last month. This compares to about 4.5m users of Lotus Notes.

Exchange, like Lotus Notes, incorporates electronic mail and built-in groupware to enable workers to schedule meetings, create discussion groups and share documents over a computer network as well as viewing and sharing information stored in public "folders".

Microsoft has, however, mod-

ified its original ambitions for Exchange. Today, company officials stress its messaging capabilities, but acknowledge that World Wide Web software provides superior features when it comes to "publishing" or distributing documents on a computer network.

Lotus, similarly, is "repositioning" Notes as a complimentary technology to the Internet - which now appears to represent a far more formidable threat than Microsoft Exchange.

"Lotus Notes today is part

**Microsoft has modified its ambitions for Exchange**

and parcel of the World Wide Web," said Mike Zisman, Lotus' executive vice president.

"Our Notes client has a fully integrated Web browser. The Notes server today can be accessed by Web browsers."

In recent public appearances, Bill Gates, Microsoft chairman, has similarly tried to stress the compatibility of Microsoft Exchange with the Internet. In contrast to the fighting talk of Microsoft executives two years ago, the company is now

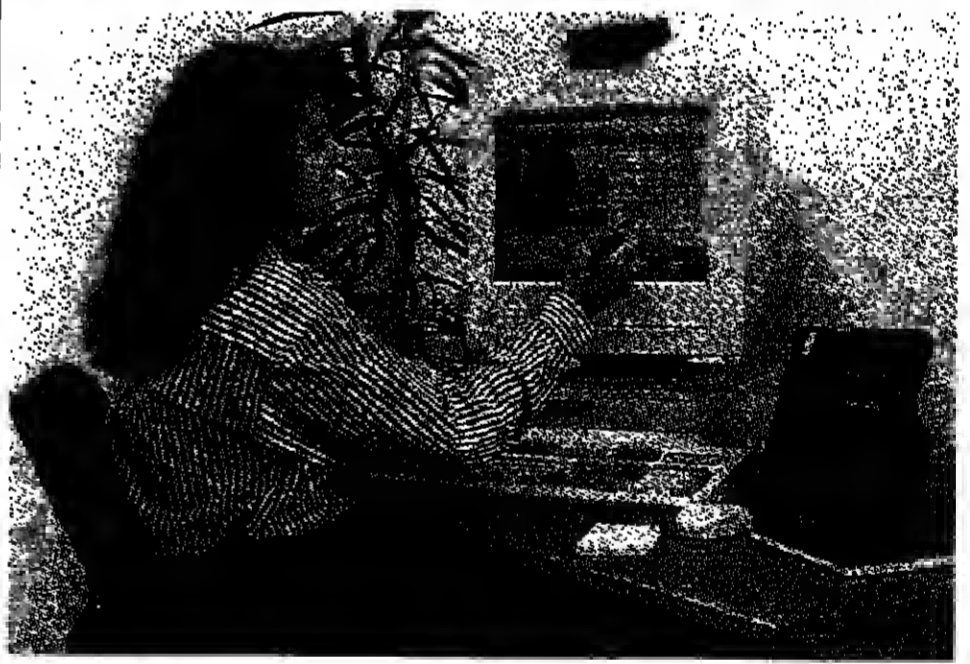
stressing how well Exchange will fit with corporate use of the Internet and intranets - internal networks based on Internet standards.

Threatening both Lotus Notes and Microsoft Exchange, as well as Novell's GroupWise program and other groupware competitors, are the latest developments from Netscape and others in the Internet software arena.

Netscape is developing software that will add features to its Internet browser that enhance Internet electronic messaging with tracking and management features.

Netscape Navigator 4.0, code named Dogbert, and scheduled for introduction before the end of this year, will incorporate collaborative and messaging technology from Collabra Software, acquired by Netscape last autumn. Marc Andreessen, co-founder and chief technology officer for Netscape, announced at the company's recent developers conference in San Francisco.

Whether Netscape can deliver on these and several other ambitious promises on time is yet to be seen, but the challenge for Microsoft with Exchange is no longer to "kill" Lotus Notes, but instead to carve out a role in a market that has been redefined by the popularity of the Internet.



The Internet is likely to change the way that collaborative computing is carried out. As system costs fall, a growing number of PC-makers have announced plans to launch models already equipped with a digital camera, microphone, and video-conferencing software - launching a trend that could lead to videoconferencing becoming a standard feature on desktop PCs, perhaps as soon as the end of the decade. Pictured here is a desktop system from PictureTel, leaders in the videoconferencing systems sector. See also pages 12 and 13 for reports on advances in videoconferencing

## Workflow system cuts costs

Continued from previous page:

Two years ago, Mr Voss took a decision to position Velo ahead of rivals. Velo invested £1m in a wide-ranging document-imaging and workflow management system from Wang. Office automation was the business that made the Wang name, but failure to keep pace with the market saw mounting losses and Chapter 11 bankruptcy protection.

Now Wang is out of Chapter 11, back in profit with revenues of \$946m, and concentrating on document management software and systems.

The UK software house, Relational Database, assisted Wang with the Velo project: each business process was allocated to a line of workflow. Velo identified 29 different processes, such as the activity in its engineering department - "we employ engineers," says

Mr Voss, "but not for their keyboard skills".

These staff keep a close eye on the progress and cost of repairs to Velo-managed cars. Velo uses 75 approved garages, with a PC at every site, networked into its Buckinghamshire head office. Mechanics take a video of the damage in question, then Wang software converts this moving image into stills that are sent down the line to Velo.

The company's engineers can see up to eight different views of the area under repair and thus judge whether the garage's estimated bill is appropriate.

Of 85 staff in Velo's insurance operations, 70 have access to the document management system. The £1m price tag marks a substantial purchase for Velo, but Mr Voss has no trouble justifying it: "For a company of our sort, that's not

a small price. But the investment will differentiate us from our competitors."

The precise payback period will depend on how fast Velo grows, but Mr Voss reckons this project will have paid for itself within two years. Productivity, which he says has increased by 25 per cent since the Wang system was installed, is his prime target: "We're looking to get into the next league without having to hire hundreds of people," he says.

Brittany Ferries and Velo's illustrate two ends of the scale in document management projects. But both companies adopted this technology for the same reason. It has given a big boost to the ability of individual employees to deal with the customer. Many companies in service industries will have to follow their example or face losing out to rivals who can project an efficient image.

**ITINERARY**

**A day at the heart of Europe's software industry**

**09.30** Arrive at Locate in Scotland's HQ, Glasgow.  
*Here you'll be met by Colene Murphy, your Locate in Scotland representative for the day.*

**10.00** Your official welcome to Scotland!  
*An overview of the Scottish software sector by John McCrossan, Head of Scottish Enterprise's Software Group.*

**10.45** A brief summary of financial support and training assistance for software companies in Scotland, by Alan McClellan, Finance Manager LIS.

**11.15** Depart for Forth Valley Software Centre.

**12.00** Arrive at Forth Valley Software Centre, at Stirling.  
*Lunch with Fuhai Roberts, Chief Executive of Forth Valley Innovation. Tour of creative and informal meeting with senior personnel of Zeila.*

**13.15** Depart for Livingston Software Innovation Centre.

**14.00** Arrive at Livingston Software Innovation Centre, meeting with Paul Lewis of Invest in Luthian. A tour of the software village and informal meeting with senior personnel from Jabra.

**15.15** Depart for Glasgow.

**16.00** Arrive at Cray Systems for an informal meeting with senior personnel from Cray.

**Debrief at LIS HQ**  
*and an opportunity to ask any further questions about Scotland as a software business location.*

**Depart for return journey home.**

To come and spend a day in Scotland, the heart of Europe's software industry, it's a great opportunity to meet the people in your industry and make some valuable business contacts. You can also find out why so many businesses like yours are expanding north of the border...

0500 666 123 or fax 0171-839 2975.  
taylor@scotent.co.uk or  
scotent@scotent.co.uk

**LOCATE IN SCOTLAND**

Spending a day in Scotland will do wonders for your expansion plans.

It's a chance to explore what has made Scotland the home of a £700 million software market.

And to meet some of the many names who have moved north to join the 20,000 people already working here.

Like Bull, Cray Systems, Adobe and Admiral - just a few of the 300 software companies located in Scotland.

To organise a visit that's tailor-made to your needs, contact Locate in Scotland. You'll find our telephone/fax numbers and e-mail addresses detailed above.

We'll write you the kind of program that'll definitely stay in your memory.

**CONTACT**  
**LOCATE IN SCOTLAND**  
**0500 666 123**

صوتنا من الامم





Hello, Helsinki: London staff at ICL, the computer company, in a business meeting with colleagues in Helsinki, Finland. ICL's use of wide-band videoconferencing saves thousands of pounds a year in staff time and travel

■ A renewed market - By Paul Taylor

# As costs fall, corporate interest rises rapidly

### Videoconferencing cuts travel budgets and saves time spent in company meetings

Videoconferencing systems have been around for more than a decade, but have traditionally been based around costly proprietary technology and offered only limited benefits. As a result, their use has largely been confined to large multinational companies and niche markets.

move to standardised systems has brought economies of scale. Prices of top-end studio systems have fallen to around \$30,000 while the cost of entry for plug-in desktop conferencing has broken through the \$2,000 level.

In addition, by providing document-sharing and whiteboarding functions, videoconferencing is addressing the growing business demand for collaborative computing as well as enabling users to see and hear their partners, no matter where they are.

Finally, the telecom bandwidth constraints in local and wide area networks which, along with interoperability issues, had held back the more widespread adoption of video telephony, are being eased by the growth of ISDN and other high capacity digital links in Europe and the US.

Recently, however, agreement on international standards, tumbling prices and the wider availability of high-speed digital telecom links have helped fuel a surge of interest in corporate videoconferencing. Sales, particularly for systems based on desktop personal computers and computer networks, have been growing rapidly.

The worldwide market for visual communications is estimated to be worth about \$500m a year at present, but Gartner Group, the market research firm, suggests it will grow to around \$7.5bn by the end of 1997. "The market is ramping up very fast," says Steve Gandy of British Telecommunications. Last year, he adds, the market grew by about 60 per cent in volume terms.

This strong growth reflects a number of key developments. In particular the "interoperability wars" appear to be over. All the main videoconferencing system vendors including PictureTel, Vtel and Compression Labs now support the International Telecommunications Union's H.320 videoconferencing standard and are moving towards acceptance of the T.120 series of standards for data-sharing.

Conferencing has finally shaken free of the constraints imposed by proprietary solutions which mean that communications were only possible between products from the same vendor. "oted the organisers of a recent conference in London on desktop conferencing and the virtual office.

Along with interoperability has come affordability. The



## Directions

New technology makes personal videoconferencing affordable

Similarly, Bay Networks, the Internet networking group formed out of the 1994 merger of Synoptics and Wellfleet Communications uses videoconferencing to link its corporate offices.

However, many of the big multinational operating in global markets have been the most enthusiastic advocates of videoconferencing. Among the companies already making widespread use of videoconferencing are SmithKline Beecham which uses its own transatlantic video links to bridge the gap between UK and US head offices, and facilitate its research and development activities.

"Videoconferencing has become a routine communication tool in co-ordinating international R&D activities," says George Poste, the group's R&D chairman. "It is now commonplace for teams at multiple sites to get together to address issues with both speed and efficiency while being spared the physical and emotional demands of constant travel.

"Modern conferencing allows full graphics and multimedia displays and the emerging use of video links between personal computers promises to further expand applications in day-to-day use."

Other new developments include local area network-based systems which enable PC-users to make and receive video calls and share and exchange data not only with other users on the same site, but also with any other H.320-compliant system using an ISDN gateway. Intel and PictureTel have both developed LAN-based systems.

### Forecasts

While sales of larger, room-based videoconferencing systems are thriving, it is personal videoconferencing, based around PCs, which has rekindled interest in the market. Gartner estimates that sales of these personal systems will be 90,000 this year rising to 180,000 next year and 350,000 in 1998.

There are two basic approaches to desktop videoconferencing: plug-in cards or software only systems. Plug-in processing power, advocated by suppliers such as PictureTel, Compression Labs and GPT, has the upper hand at the moment. But Intel argues that the future lies in software-only videoconferencing, such as its low-cost ProShare system (illustrated below) which rely on the growing power of the current generation of microprocessors.

In the UK, big video telephony users include International Distillers & Vintners, part of Grand Metropolitan, and TSB. A survey involving 200 of the UK's top companies published by Creative Labs in November, showed that nine per cent were already using videoconferencing, 70 per cent said they would evaluate videoconferencing products over the next 12 months and more than half said they plan to implement at least one videoconferencing-based project by 1997. More than half saw the tech-

■ Larger videoconference and 'rollabout' systems - By Tom Foremski

# Room-based systems offer substantial benefits

When it comes to videoconferencing, nothing beats a permanent room-based installation set up with microphones, a large screen and special lighting



'Virtual workgroups' meet across thousands of miles: company staff in the UK discuss projects with colleagues in the US, using the 'Focus' videoconferencing system from GPT Communication Systems

While desktop videoconferencing is fine for some applications, the small picture size and the jerky quality of PC-based videoconferencing, is a very poor substitute for face to face meetings - which is the whole point of videoconferencing in the first place.

Room-based videoconferencing centres provide the large screen images that show subtle communications clues contained in body language, all of which helps to get a message across. These systems are also essential when groups of executives are assembled for a meeting.

"Companies that install room-sized videoconferencing systems quickly realise the benefits of such systems in terms of saving on travel costs and being able to arrange meetings more quickly," says David Rowe, managing director of UK based Internet Video Communications. "If you can set up a series of meetings more quickly, then there is a competitive advantage for the company in terms of quicker decision-making."

Room-based videoconferencing systems are much more expensive than PC-based videoconferencing. An installation can cost about \$40,000 (\$61,000) for the equipment, acoustic panels, microphones and special lighting. But for many companies, the cost is a worthwhile investment and an increasingly important part of doing business.

Many companies not only use videoconferencing to communicate between locations within their own company but also with other companies, and with suppliers and customers. The widespread adoption of the H.320 communications standard by all the leading videoconferencing systems companies, now means that users of different systems can talk with each other without running into compatibility problems.

Previously, the various vendors tried to establish their own standards and most videoconferencing systems were

incompatible with systems from other manufacturers. Room-based videoconferencing systems can also connect with PC-based videoconferencing systems, but Mr Rowe points out that the picture quality degrades to the lowest common denominator - "but that is changing as newer videoconferencing systems give users the ability to split a screen between different parties and still maintain high quality images".

Videoconferencing rollabouts are another alternative. These are videoconferencing systems that can be wheeled from room to room. But often, the quality of the image and sound is not as good as permanent installations.

An additional key feature of videoconferencing is the shared whiteboard which allows both parties to view information during the meeting and to make contributions that can be recorded and printed out for later review.

Andersen Consulting, which has offices in many countries, uses videoconferencing to link key executives in an attempt to build a virtual office environment that is not constrained by location or time. Andersen has been a pioneer of videoconferencing and has discovered ways of using it most effectively. "If you have a large group taking part in a videoconference, say, ten to 15 people you must prepare beforehand and have chairpersons at both ends to help direct the meeting," says Keith Burgess, worldwide management partner for competency practices at

Andersen. "The risk is that you'll limit spontaneity in the meeting but it's important for the group to be focused."

Mr Burgess points out that for some meetings, face-to-face encounters are still the best choice. "If you have a working group, they need to meet in person several times to establish their relationships and lay the groundwork, then they can use videoconferencing for future meetings."

But no matter how good the videoconferencing systems, Burgess advises companies to look at them holistically, and to decide how they will fit into the company's operations and when and where they should be used. Although PC-based videoconferencing systems are gaining popularity, Mr Burgess believes that the technology is still experimental and that they are more like a "glorified video telephone".

Room-based videoconferencing systems use high speed telecommunications lines such as ISDN lines, to connect with each other. The more ISDN lines used, the better the image quality and the greater the number of frames per second

that can be sent and received. The ideal frame rate is 30 frames per second. Fifteen frames per second is common for low-end systems but this often leads to problems in synchronising lip motion to speech and produces a distracting effect. Although ISDN lines are available in most countries, Mr Rowe points out that they are not always the same.

"There are differences in the ISDN lines of almost every country. The US, for example, uses 56 kilobit modules while the UK uses 64 kilobit modules," he says. "And there are differences between European countries, so it makes it more challenging to book up videoconferencing networks for companies that want to link offices in different countries. You really need to know what you are doing."

Although desktop videoconferencing systems are growing in popularity, US market research firm Dataquest predicts that widespread use of desktop videoconferencing will highlight the advantages of room-based systems that allow

Continued on facing page



Personal videoconferencing with Intel's ProShare system - see report, right

## The ProShare system - By Paul Taylor

### Software-only solution

Desktop videoconferencing is the most dynamic segment of a growing market fuelled in part by the expansion of PC processing power, greater 'bandwidth' to the desktop and business demand for tools which help co-operative working.

This new market has already attracted the attentions of many of the information technology industry heavyweights, including Intel, the US semiconductor maker, whose aggressive promotion of its low-cost ProShare system is helping to define the market.

"This technology will come free with every PC that is shipped by the end of the decade," predicts Nigel Grier, director of marketing for Intel's product group in Europe. Indeed, market analysts such as Dataquest and Gartner are predicting that desktop videoconferencing will grow swiftly every year over the next few years.

To achieve this, ProShare, unlike most other videoconferencing packages, does not require additional hardware in the form of a plug-in card.

### Lion's share

Intel claims that since ProShare's launch, it has won the lion's share of the desktop market with 160,000 users worldwide. Among ProShare blue-chip users are the Swiss Co-Op bank which used ProShare to create personal conferencing kiosks, and BMW, the German auto maker which is using the technology to speed-up and improve the design process with supplier of components.

"Traditional forms of communication, such as telephone and facsimile, can no longer support the level of co-operation we need to achieve," explains Mr Erns Schindler, responsible for developing PC strategies at BMW.

### How has your desktop fared so far?

is limited by... configurations and... for each job.

**RIGHT TIME**... Delivery on time either by dedicated Micro-Rent staff (who can also bring the equipment), or (outside the M25 area) by the most efficient and reliable means.

**RIGHT EQUIPMENT**... Micro-Rent hold huge stocks of PC and Macintosh machines, and a full range of servers, printers, scanners & projectors.

**RIGHT NOW** - CALL 0171-700 4848 or fax us for a quotation on 0171-607 5102

The unique Hire-to-Acquire\* scheme lets you rent your PC at the right time and the right equipment to buy

**HEWLETT PACKARD**

**MICRO-RENT**

\*Hire-to-Acquire is not available to individuals. Email: systems@microrent.co.uk, compuserve.com

**Works**

The FT - IT Recruitment Section appears in the paper every Friday and also all week on www.FT.com

For more information call Will Thomas on +44 (0) 171-873 3779 (e-mail: will.thomas@FT.com)

**NEW! Callback Service without kallback Prices**

For unbeatable calling prices to the U.S., it's a whole New World. Our rates are over 60% lower than most other phone companies. They're even lower than kallback™ almost everywhere in the world. Plus you enjoy maximum clarity and dependability no matter where you are.

**Call Francis at 1-201-996-1670 Fax: 1-201-996-1870**

e-mail: francis@newworldtele.com http://www.newworldtele.com

**NEW WORLD TELECOMMUNICATIONS**

1402 Tenth Street • Suite 114 • Newark, NJ 07102 • USA

CHECK OUT NEW WORLD'S RATES TO THE U.S.	
U.K.	25¢
France	36¢
Germany	38¢
Switzerland	39¢
Portugal	56¢
Italy	49¢

• LOWEST RATES  
• 6 SECOND BILLING  
• NO HIDDEN CHARGES  
• LOCAL FOR HOME, HOTEL OFFICE IN CELLULAR

AGENTS, INTERESTED IN DISTRIBUTING PROGRAMS CONTACT US AT 1-201-996-1670

**internet for business**

does.net.4.business@=£?

Find out who is really making money from the internet and online services, and what the future opportunities are for businesses.

**Internet For Business**  
serious analysis of new business opportunity

For further information on this new FT Media Newsletter, please telephone +44 (0)171 896 2234 or email nikkim@pearson-pro.com

**FT** FINANCIAL TIMES Telecoms & Media Publishing

سيدا من الالاهل

Videoconferencing / software

Video technology - By Tom Foremski

Race to improve picture quality

Low-cost digital cameras on desktop personal computers will eventually become a standard feature

The development of cheap digital camera technology is one of the reasons that desktop videoconferencing has become so popular and more affordable...

Digital cameras have become so inexpensive that they will become standard on most desktop and even portable computers...

Although the resolution of these small digital cameras is not great, the quality will improve as new chips are developed...

The ability of a digital camera to display a clear, high-resolution image, is only a small part of the challenge in creating effective videoconferencing...

network but impossible over phone or ISDN lines. An ISDN line, for example, handles data in 64 or 56 kilobit per second rates...

To lower the bandwidth burden, video systems often limit the number of frames per second to 15, which can still provide reasonable, if jerky, videoconferencing...



The popularity of digital cameras has risen as prices have fallen

low end desktop videoconferencing systems offer just five to seven frames per second.

Colour information can also be reduced to a more manageable 8 bit colour, which again, reduces the amount of data that has to be carried...

Another way to make use of a narrow bandwidth is to compress the data before sending it and then decompress it at the other end...

There are two approaches to data compression. One approach is to perform the compression and decompression in software...

the hardware based approach. The hardware based compression adds to the expense of the system but offers better performance and quality.

However, as microprocessors become more powerful, it makes more sense to use software based compression. For example, Intel and Microsoft are working on new technologies that will allow Intel microprocessor based PCs to compress and decompress video and audio images at rates as fast as low end hardware based solutions...

For many businesses, statistical analysis is one of the most obvious ways to understand market trends, to minimise risks and maximise opportunities.

Financial institutions use it to identify the sorts of people to whom it is least likely to be safe to lend money. Others in the same organisations may be using it to forecast sales of products and services...

There are, of course, several other types of software which can be applied to such tasks, including spreadsheets and databases. But statistical analysis may be needed to get to the heart of the matter and expose the crucial relationships...

Statistical software may include some important elements that are not in other types of software. Spreadsheets cannot handle multiple regression analysis - modelling the relationship between variables - without an expert writing a

macro program, which could take some time. Olap (Online Analytical Processing) tools may also be useful for looking at statistics and quickly getting to the root of a question...

Statistics and modelling packages - By George Black

Statistics and modelling may sound like specialist subjects in which senior managers do not need to be much interested.

But these days they are functions which affect the core activities of a business. The choice of computer systems to control their operation is therefore by no means a marginal issue for the management.

Statistics and modelling software packages are used for a wide range of purposes, from supporting scientists and engineers in research projects to analysing the results of marketing surveys.

The software has matured over the past decade and the vendors claim that today they are one of the most powerful tools for competitive advantage. There are plenty of users who will bear witness to having derived substantial benefits.

As businesses move from isolated databases to integrated data warehouses, more powerful tools to search those data warehouses and retrieve and analyse the data are urgently needed. A data warehouse has little value without powerful tools to test out hypotheses and search for unknown patterns in the data.

For many businesses, statistical analysis is one of the most obvious ways to understand market trends, to minimise risks and maximise opportunities.

Financial institutions use it to identify the sorts of people to whom it is least likely to be safe to lend money. Others in the same organisations may be using it to forecast sales of products and services. Meanwhile, the personnel department may be using it to study the results of questionnaires on employee satisfaction in order to reduce staff turnover.

There are, of course, several other types of software which can be applied to such tasks, including spreadsheets and databases. But statistical analysis may be needed to get to the heart of the matter and expose the crucial relationships...

Statistical software may include some important elements that are not in other types of software. Spreadsheets cannot handle multiple regression analysis - modelling the relationship between variables - without an expert writing a

Statistics in government - By Rod Newing

Valuable insights won

How the Scottish Office helps speed up data analysis

"As a statistician, I need to make data accessible to non-statisticians," explains Ms Catriona McKay from UK government's Scottish Office.

"By using computer software effectively, we can make more information more accessible to users. We can provide them with analysis more quickly and respond to follow up questions faster."

The Scottish Office has 20 gigabytes of data about Scotland in SAS databases. These are currently on their mainframe, a local area network server and local personal computers, although it will soon be centralised on a Unix server. Data is only collected annually, so there is little continuous data and it is hard to get long time series or meaningful trends.

"The Scottish Office have been using the SAS Insight product for a number of years. It fits statistical distributions to data very quickly by choosing them from a list," explains Miss McKay. "You can start with a linear distribution and then choose more complex ones. It is also possible to apply a transformation to the data, such as logarithm or square root, to convert the relationship to a straight line, which users find easier to understand."

How to make sense of the numbers

For many businesses, statistical analysis is one of the most obvious ways to understand market trends, to minimise risks and maximise opportunities



When it comes to the crunching... neural networks have the edge over manual methods

macro program, which could take some time. Olap (Online Analytical Processing) tools may also be useful for looking at statistics and quickly getting to the root of a question...

Answers to these questions could reduce the field of prospects and thus the amount of money wasted on misdirected marketing projects.

Another type of software which may be regarded as complementary to statistical and modelling packages is the emerging technology of neural networks.

This is a branch of what used to be called artificial intelligence, until that label fell into disrepute. Recently there has been a revival of interest in reproducing the workings of the human brain. Systems which attempt to copy human thought patterns to identify key features from confused and incomplete data are called neural networks. Their advocates say that, unlike expert systems, they do not need rules to be specified at the outset and are thus not restricted by the inflexibility of the rule base.

Leading statistical software vendors, such as SAS Institute, have moved into providing neural network applications along with their other products.

SAS's UK marketing director Glyn Read says that banks are now using its product to save money on direct mail. Police forces are considering it for tracking criminal activity, he

Software at work

Statistical analysis and modelling packages

indicate whether age, sex or location is the most important aspect among prospects, whether they are equally important or whether it is a particular combination which is important.

Financial applications - By George Black

How a lender can speedily check the risk of fraud

Software sifts through a mass of historical data on fraud incidents to identify key criteria

Financial institutions have long used statistical software to study the risks of giving credit to customers. Provident Personal Credit, the UK's leading home-collected credit company, has now adopted US statistical software from SPSS to help minimise the risk of fraudulent activity.

"Insight gives us the best set of analysis tools of any package - its data manipulation tools are good, so it is relatively easy to bring data together from multiple sources and put it together to create a meaningful picture. It can handle greater volumes of data without users being aware of it."

"It allows us to work interactively with data. You can make changes on the screen and the display responds as you work. We can also get different views of the same data simultaneously. However, Insight's real benefit for statisticians is that we can do more work, faster and more innovatively."

Although loss through fraud has not been a big problem, the company was aware that even a small reduction in fraud could bring about a substantial cost-saving. The company's principal method of fraud prevention is to visit customers and check that transactions had been properly made. This is an expensive undertaking, even when only carried out on a small sample.

A computer system would enable the company to direct its vigilance to those agents about whom there was a degree of concern. It would minimise the risk by analysing statistically in circumstances where such incidents were most likely to occur.

After a couple of false starts using knowledge-based systems and neural networks, the company decided to apply the SPSS software which was already used by its marketing department.

SPSS was harnessed to a mass of historical data on fraud incidents to identify the key criteria. It worked through a list of 70-80 factors and discarded those which it found to be of little or no significance.

The possible factors which were listed covered both business patterns and the agents' personal data.

With SPSS, the company was able to build a predictive model which it called the Agent Fraud Detection Package. This has now been running for a year and the company says it is "very pleased" with the operation.

The model determines risk Continued on next page

Rising demand for desktop systems

Continued from facing page

groups of people to communicate.

In a market study of 200 large US corporations released last year, Bruce Ryon, senior industry analyst at Dataquest, reports that "business users are telling us that the true need for conferencing systems, group-to-group meetings, is served by the best technology available: room and rollabout videoconferencing systems."

Desktop systems, while lacking in quality and capability, do have a role to play as multi-point add-ons to group conferencing.

Mr Ryon points out that the greater availability of desktop videoconferencing products is helping to drive the demand for the larger systems as companies discover the benefits of the technology.

But companies need not have to go to the expense of building their own room-based

videoconferencing systems. In the US and the UK, for example, there are videoconferencing rooms that can be hired by the hour.

AT&T's Global Business Video Services, for example, has more than 500 publicly available videoconferencing rooms across the US and plans to add more. AT&T has linked them with high-speed fibre optic communications lines that can carry high-resolution video images.

The money isn't in the vaults, it's in the database. The future of financial services is the future of information technology. Data mining, EDI, Document Management, The Internet, Electronic Banking, Real-time Settlement, Networking...

FINANCE IT Summit - May 1996. Over 100 top suppliers - FT readers skip the queues and go right in. Hear from dozens of top users in the Inclusive Research/Finance IT Summit - FT readers get in free (others pay £100 per session). PLUS a series of major working demonstrations, dozens of free supplier seminars and the FIT Club VIP Lounge where you can take a break, enjoy complimentary refreshments and read your complimentary copy of the FT. Fax your business card now and we'll send your complimentary entry badge, FIT News, FIT Summit Agenda and FIT Club VIP membership.

OGY. NIVE.

■ Interview: Bill Inmon

# Healthy scepticism spawned the data warehouse industry

Journalist and consultant Bill Inmon could not accept what IBM was saying about relational databases. He developed the concept of a data warehouse to prove the giant computer company wrong - and now everybody wants one. Rod Newing talked to the undisputed 'father of data warehousing' about how the concept helps managers to run their business and be more competitive



Inmon: 'The rate of acceptance of data warehousing is breathtaking'

IBM were "over-hyping relational database technology beyond belief" and my healthy scepticism triggered a bitter war of words with Ted Codd and Chris Date, the founders of relational technology, backed by IBM," recalls Mr Inmon, who was then writing a column in the US magazine *ComputerWorld*.

"They were arguing against holding history or summarising the data," he says. "Application programmers were not building systems to provide the information which managers need to run their business."

This was in 1983 and Mr Inmon had recognised that the industry emphasis was on using relational databases for transaction processing, not for providing managers with the information to help them make decisions. He developed the concept of a data warehouse to bring together information from different transaction processing systems and integrate it. (see box, below)

"Integrated information is

## A prolific writer

Bill Inmon has a background in programming and database management. He has been a journalist and consultant working for American Management Services, where he was chief architect of the world's first data warehouse, built for Pacific Telephone in 1986. He was also national director of technology for Coopers and Lybrand and then ran his own consultancy company. He founded Prism Solutions in 1991 to develop software tools to automate the transfer and management of data in a warehouse. Prism will seek a public listing in the near future.

Mr Inmon has written over 200 articles and 31 books, including *Building the Data Warehouse* and *Using the Data Warehouse*. He is currently writing *Managing the Data Warehouse*.

## Statistical software

### Financial risks reduced

Continued from previous page: factors for agents and customers which are used to direct activity to those areas with the highest risk. In practice, the risk factors associated with frauds discovered in the past year have been an average eight times higher than the general population. The system has been effective in reducing the total value of frauds not only by detecting fraudulent behaviour earlier but also by acting as a deterrent. Since installation, the system has identified half of those cases in which a possible fraud had been notified. The other half of the cases have been identified by routine internal controls, such as correspondence with customers. Most importantly, says the company's fraud analyst, Mr Steve Tipping, the system has greatly reduced the company's overall risk of loss from fraud - without increasing operating costs. Mr Tipping's team is now looking again at the possibility of using other types of soft-

ware, including neural networks and rule induction techniques. Tests are being carried out on Integral Solutions' Clementine package, which encompasses both approaches. "Statistical software will continue to be the basis of our strategy, but other types of system may be used as an adjunct," adds Mr Tipping. "Sometimes using them all together can be more effective than using one on its own."

Provident Personal Credit has made investors aware of the introduction of the system. As investors have become more concerned about the internal security of financial institutions in the wake of the Barings collapse, the use of statistical software for fraud control is likely to become more widespread.

SPSS, based in Chicago, is one of the leaders in statistical software, with versions running on many types of computer hardware and supported in several languages. Its products are also used for survey research, sales and marketing analysis, quality improvement, scientific research and education.

## Software maintenance - By Philip Manchester

### Could software ever become self-repairing?

Software suppliers are beginning to think about an automated approach to maintenance as a result of the spread of global networking

As any computer programmer about software maintenance and the future, they will say it is tedious, boring and a career *cul-de-sac*. Nevertheless, conventional wisdom has it that maintenance represents as much as 70 per cent of an information technology (IT) department's software budget. This means that more than two-thirds of programming effort goes into maintaining old systems rather than building new ones. In spite of the negative image, the maintenance task has had in the past, changes in the structure of software promise to make it a lot more exciting in the next few years. The rise of client-server systems, new approaches to software design - such as object-oriented computing - and the growing use of Internet-based communications all have sig-

## Guest column

### Customers are becoming choosier about services

The IT outsourcing market needs to re-examine some of its core assumptions, says Charles Cox

The IT outsourcing market is ripe for change even though - or perhaps because - outsourcing is now such a familiar idea and the historic benefits are so well understood. The key to change, however, lies in the behaviour of the buyer. Leading customers are no longer buying a facilities management service as if it were a commodity, and their understanding of how to gain the best value for their business is evolving. Customers are becoming choosier about the form of service they buy, how they buy it and, more importantly, about what they do with it.

Outsourcing is a powerful but partial solution. The key is not so much taking the cost-based decision whether to outsource or not - which often consumes a vast amount of management and employee time and resource - but forming a clear-eyed view as to which elements of their business would benefit and would be better supported by an outsourced service and how such supply re-structure delivers additional value to their own business. The transfer and ongoing management of a company's computing facilities, has long seemed an attractive proposition. It promised not only cost savings but performance improvements as non-core parts of the business were hived off.

## Best practice

Running IT systems, after all, was the core business of the outsourcing supplier, which suggested that such a company could take on the job and do it more cost-effectively. With experience derived from many other companies' IT systems, the outsourcing supplier could not only draw on the diversity and depth of its own technical expertise but could ensure that the service provided represented industry best practice. Today, though, there is a



Discovering customer buying-trends from past retailing data, enables companies to target their customers more accurately

75-80 per cent of the market, can both handle massive amounts of data. The focus in the market today is what a data warehouse is and how do you build it, Mr Inmon believes. The next focus of attention is going to be how to manage it and use it effectively. When these concepts have achieved maturity, he sees it developing and evolving to accommodate new conditions. By then, it will not be used so much for cleaning up old legacy data, as it is now.

"If we had orderly integrated transaction processing systems by then, we could build orderly simple neat interfaces into a warehouse. However, I have very little faith in IT organisations building integrated transaction systems."

## Cost savings

He points out that the cost of integrating data is just as significant as the cost of database software and the hardware to run it. Integration of transaction processing systems as they are written would reduce the cost of implementing a data warehouse very significantly and make it available to a wider range of organisations.

didn't recognise the validity of decision-support systems". His healthy scepticism has brought a new life to the database market and is helping to transform the way organisations use data. IBM may have fought him in

the beginning, but they have done very well out of building data warehouses for their customer.

□ The author, Rod Newing, MBA FCA FirstD, is a specialist in executive computing. (rnewing@cc.computlink.co.uk)

## Data warehousing explained

A data warehouse architecture consists of a separate relational database of integrated detailed historical data, together with summarised information customised into a series of smaller relational or multi-dimensional departmental "data marts". The information is used by directors, managers and analysts to analyse their business and customers to make key decisions, ranging from strategic changes of direction to micro-marketing to customers. The considerable costs of a data warehouse architecture are justified by the competitive advantage which it can bring if used effectively. Users access the main data base or customised departmental data marts using a wide range of tools. These include Enterprise Information Systems (EIS), spreadsheets, data browsers, report writers, query tools, data mining tools, data visualisation tools, desktop mapping tools and many others. A relational database can be constructed to be extremely efficient at either transaction processing or decision support. However, the structure required for each is diametrically opposed and a database cannot be efficient at both. Using a database optimised for transaction processing can cause a serious deterioration in its data input performance.

nificant implications for software maintenance in the future. Looking well into the future, there is even the prospect that software could be "self-repairing". It is conceivable that software errors could be corrected automatically. A user working on a desktop PC connected to a network could be unaware that an error had occurred, a notification sent to a central database and a program "fix" sent back. All they would experience would be a slight delay while the error was corrected.

Internet connection suppliers such as Pipex, for example, already supply software upgrades automatically when a user signs on to the network. This is a step towards making an important area of software maintenance much easier to carry out. Software suppliers are beginning to think about an auto-

ated approach to maintenance as a result of the spread of global networking. "With the growth in people using the network, there is an opportunity to download 'fixes' for programs. The idea of an electronic mail directory of all users which can be used to broadcast fixes has some appeal," says Mr Tony Lewis, executive director of the Computer Services and Software Association (CSSA).

Mr Lewis admits though that it is still early days for the development of such ideas: "The huge bulk of commercial software out there is still written in Cobol and maintenance programmers are preoccupied with more pressing problems like what happens in the year 2000 - the Millennium Bomb as we call it."

Mr Robin Bloor, an IT consultant with Bloor Associates, accepts that self-repairing software is a good idea - but is not convinced it will catch on unless it can reduce maintenance costs - "It sounds good, but I don't think it will hap-

pen. There would need to be a standard for trapping and handling software errors over the Internet."

He sees the key lying in the switch to object-oriented computing - which breaks software down into components rather than the traditional monolithic systems of the past. "Using 'objects' does allow you build error-trapping. But it will take time to bring this sort of quality control for software delivered over the Internet."

Mr Bloor goes on to suggest that fixing "bugs" in software is only a relatively small part of maintenance anyway: "People think of maintenance as anything to do with changing software. They confuse systems enhancements and bug-fixing. But in reality the bulk of changes occur because the hardware environment changes. Only about 20 per cent of the perceived maintenance budget is directly involved with correcting errors

in the original code."

Mr Andrew Bailey, product marketing manager at Oracle UK, sees the cause of maintenance shifting from the supplier to the "assembler" of software applications. "No one can see with any certainty quite what will happen as a result of software objects and the Internet. Obviously it will be more convenient to deliver software over the network - particularly as it is moving to a component model. This means the onus of software maintenance will switch to whoever is responsible for putting the components together," he says.

He also sees potential for the idea of self-repairing software as a result of the move to object-oriented computing. "The concept of objects makes self-repairing code possible - it would be easier to change components. And, in an environment like the Internet where you don't know where software components are being used, some sort of notification process to a central repository could be useful."

"At the moment I am not sure the software industry is fully conversant with the implications of all of this yet." One area where a combination of component software and Internet communications could make a real difference to maintenance strategies is the concept of the network computer - promoted strongly by Oracle and Sun Microsystems.

Unlike current personal computers, network computers do not store their software locally, they "download" it from the network when the users need

to use it. Sun, for example, is promoting the Java language as the mechanism for building software components which can run on a network computer. This means that each time a user wants to use an application, they can be sure of getting the most up to date version.

This is certainly one of the attractions of Java. In theory, all of the maintenance can be carried out centrally on a single server computer and distributed to network computers. This will obviously bring down costs," says Mr Bloor.

Mr Bailey of Oracle agrees - but points out that the application software on the server could still be "assembled" from components from diverse sources. "Distribution is easier - but the server application code is likely to be a combination of components from all over the place. That will still represent a big maintenance problem and one that is very different to the current model," he observes. While the idea of self-repairing software might be some way in the future, it is clearly one that will come on to the agenda soon. The fragmentation of software applications is already well advanced and will gather speed as Internet-based communications spreads.

Perhaps when the knotty problem of upgrading software to cope with the new Millennium has been overcome, the software industry will begin to focus its attention on automatic maintenance as a way to cut the cost of software ownership.

Did your desktop survive? HEWLETT PACKARD HP PCs GIVE YOU ROOM TO THINK

Will it adapt to the future? HEWLETT PACKARD HP PCs GIVE YOU ROOM TO THINK

سیدنا من الامام





FINANCIAL TIMES

Dear Reader

It is important for us to know as much as possible about the readers of FT-IT so that we can continue to improve this product and design others for you as well.

Whether you read FT-IT regularly or only occasionally, we would be grateful if you could help us by completing and returning this questionnaire. The survey results will be used by our editorial, advertising, marketing and electronic media departments. Your reply will be treated in the strictest confidence by Martin Hamblin Research who are a leading independent market research company.

Please return the questionnaire and send it to Martin Hamblin before Friday, 19 April. The address is on the reverse of the questionnaire. No stamp is required if it is posted in the UK. However, it has not been possible to organise Freepost for outside the UK.

Thank you for your help.

Yours sincerely

Rhys David

RHYS DAVID  
SURVEYS EDITOR

SECTION I - ABOUT THE FT AND FT-IT

1. How often do you read the Financial Times: a) on weekdays b) on Saturdays?

	Weekdays	Saturdays (11-12)
Every/nearly every issue	<input type="checkbox"/>	<input type="checkbox"/>
Quite often	<input type="checkbox"/>	<input type="checkbox"/>
Only when FT-IT is published	<input type="checkbox"/>	<input type="checkbox"/>
Only occasionally	<input type="checkbox"/>	<input type="checkbox"/>
Never normally	<input type="checkbox"/>	<input type="checkbox"/>

2. And how often do you read FT-IT?

Every/nearly every issue	<input type="checkbox"/>	(13)
Quite often	<input type="checkbox"/>	
Only when I come across it	<input type="checkbox"/>	
This is the first issue	<input type="checkbox"/>	

3. Were you previously aware of the publishing programme of FT-IT (first Wednesday of every month apart from January and August)?

Yes, knew precisely	<input type="checkbox"/>	(14)
Knew it was monthly, but not which day	<input type="checkbox"/>	
Did not know programme	<input type="checkbox"/>	

4. What do you use FT-IT for?

To look for new ideas	<input type="checkbox"/>	(15)
To understand the marketplace	<input type="checkbox"/>	
To understand the technology	<input type="checkbox"/>	
To find out what competitors are doing	<input type="checkbox"/>	
To provide points for discussion	<input type="checkbox"/>	
To look for new IT applications	<input type="checkbox"/>	
To look out for new products	<input type="checkbox"/>	
To find out about IT companies	<input type="checkbox"/>	
To read about people in IT	<input type="checkbox"/>	
To find out about problems associated with IT (Tick as many as you wish)	<input type="checkbox"/>	

5. What do you do with your copy of FT-IT after you have read it?

Pass it on to colleagues	<input type="checkbox"/>	(16)
File it for future reference	<input type="checkbox"/>	
Throw it away	<input type="checkbox"/>	

6a) What sort of people do you feel FT-IT is written for?

6b) Which of these descriptions best fits you?

	FT-IT is written for	This description best fits me
Non-IT Management who want to know how computers can help them	<input type="checkbox"/>	<input type="checkbox"/>
Other executives in companies using IT	<input type="checkbox"/>	<input type="checkbox"/>
IT Management	<input type="checkbox"/>	<input type="checkbox"/>
Management & executives within IT companies	<input type="checkbox"/>	<input type="checkbox"/>
Analysts who track the IT sector	<input type="checkbox"/>	<input type="checkbox"/>
Students of Computer science	<input type="checkbox"/>	<input type="checkbox"/>

7. What other sources do you use for information about IT?

Other national newspapers	<input type="checkbox"/>	(17)
Specialist magazines	<input type="checkbox"/>	
TV	<input type="checkbox"/>	
Radio	<input type="checkbox"/>	
Colleagues/friends	<input type="checkbox"/>	
Information from IT company literature	<input type="checkbox"/>	
Information from IT company representatives	<input type="checkbox"/>	

SECTION II - ABOUT YOU

8. Are you...?	Male <input type="checkbox"/>	Female <input type="checkbox"/>	(20)
9. Are you...?	Under 25 <input type="checkbox"/>	45 - 54 <input type="checkbox"/>	(21)
	25 - 34 <input type="checkbox"/>	55 - 64 <input type="checkbox"/>	
	35 - 44 <input type="checkbox"/>	65+ <input type="checkbox"/>	

10. Are you...?			(22)
Working full-time	<input type="checkbox"/>		
Working part-time	<input type="checkbox"/>		
Studying	<input type="checkbox"/>		
Retired	<input type="checkbox"/>		
Running the home	<input type="checkbox"/>		
Looking for a job	<input type="checkbox"/>		

11. What is your country of residence? (22-24)

12. Do you use a PC...? (Tick more than one if relevant)			(25)
At home	<input type="checkbox"/>		
At work	<input type="checkbox"/>		
When travelling	<input type="checkbox"/>		
Don't use a PC	<input type="checkbox"/>		

13. Is your PC...?	At work	At home	(26-27)
A laptop	<input type="checkbox"/>	<input type="checkbox"/>	
Desktop stand alone	<input type="checkbox"/>	<input type="checkbox"/>	
Desktop networked	<input type="checkbox"/>	<input type="checkbox"/>	
Don't use a PC	<input type="checkbox"/>	<input type="checkbox"/>	

14. Do you have a modem?	At work	At home	(28-29)
Yes	<input type="checkbox"/>	<input type="checkbox"/>	
No	<input type="checkbox"/>	<input type="checkbox"/>	

15. Is your modem speed...?	At work	At home	(30-31)
Less than 14,400 baud	<input type="checkbox"/>	<input type="checkbox"/>	
14,400 baud	<input type="checkbox"/>	<input type="checkbox"/>	
28,800 baud	<input type="checkbox"/>	<input type="checkbox"/>	
ISDN	<input type="checkbox"/>	<input type="checkbox"/>	
Don't know	<input type="checkbox"/>	<input type="checkbox"/>	
Don't have a modem	<input type="checkbox"/>	<input type="checkbox"/>	

16. What PC services do you use?	At work	At home	(32-33)
Corporate e-mail	<input type="checkbox"/>	<input type="checkbox"/>	
Internet e-mail	<input type="checkbox"/>	<input type="checkbox"/>	
Internet web access	<input type="checkbox"/>	<input type="checkbox"/>	
On-line services	<input type="checkbox"/>	<input type="checkbox"/>	
None of these	<input type="checkbox"/>	<input type="checkbox"/>	

17. Do you use any of the following?	At work	At home	(34-35)
CompuServe	<input type="checkbox"/>	<input type="checkbox"/>	
America On-Line/Europe On-Line	<input type="checkbox"/>	<input type="checkbox"/>	
Microsoft Network	<input type="checkbox"/>	<input type="checkbox"/>	
FT Profile	<input type="checkbox"/>	<input type="checkbox"/>	
Knight Ridder	<input type="checkbox"/>	<input type="checkbox"/>	

18. If you use the web, how many different sites do you visit during a typical day?	At work	At home	(36-37)
1-2	<input type="checkbox"/>	<input type="checkbox"/>	
3-5	<input type="checkbox"/>	<input type="checkbox"/>	
6-10	<input type="checkbox"/>	<input type="checkbox"/>	
Over 10	<input type="checkbox"/>	<input type="checkbox"/>	
Difficult to say	<input type="checkbox"/>	<input type="checkbox"/>	
Don't use web	<input type="checkbox"/>	<input type="checkbox"/>	

19. Which sites do you visit most frequently?		(38-40)
.....		
.....		
.....		

20. If you use the web, which Browser do you use?		(41)
Netscape	<input type="checkbox"/>	Explorer <input type="checkbox"/>
Netscape 2	<input type="checkbox"/>	Other <input type="checkbox"/>
Mosaic	<input type="checkbox"/>	Don't use web <input type="checkbox"/>

21. What type of information do you look for on the web?		(42)
News	<input type="checkbox"/>	
Job advertising	<input type="checkbox"/>	
Information on products/services	<input type="checkbox"/>	
Other	<input type="checkbox"/>	

22. How often do you access the web at the following times of day?	Usually	Sometimes	Never	(43-44)
Start of the day	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
During the morning	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
At lunch-time	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
During the afternoon	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
End of the working day	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
During the evening/night	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

23. Would you be prepared to purchase goods on-line by credit card?		(45)
Yes	<input type="checkbox"/>	
Possibly	<input type="checkbox"/>	
Definitely not	<input type="checkbox"/>	

24. Does your company have a web site?		(46)
Yes	<input type="checkbox"/>	
No	<input type="checkbox"/>	

25. Does your job responsibility involve taking decisions about the purchase, leasing or use of goods or services? Please tick any items on the list below for which you:

	(a) Initiate	(b) Evaluate	(c) Authorise	(47-48)
Networks and Data Communications	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	1
Personal Computers	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	2
Software/Software Services	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	3
Telecommunications products and services	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	4

FINANCIAL TIMES

From sho

Martin Hamblin Research  
Mulberry House  
36 Smith Square  
London  
SW1P 3HL

What IT deve  
are taking  
your indu

صكنا من الاعمى



• FT-IT DIRECTORY • FT-IT DIRECTORY • FT-IT DIRECTORY • FT-IT DIRECTORY •

1-2 Accounting & Business Software
3 Activity & Contact Management
4 Application Software
5 AS/400 Security

1 SANDERSON
Tel: 0114 282 7777
Fax: 0114 282 1340
E-Mail: SeanH@Sanderson-cbt.co.uk
For Premier Computer Solutions
Sanderson is the UK's premier open systems supplier of computer solutions and related technology and networking services with 15 offices in the United Kingdom and operations in Australia, USA, New Zealand and East Asia.

3 KAI Computer Services Ltd
8 Kings Exchange, Tileyard Road, London N7 9AH
Tel: 0171 809 3746 Fax: 0171 609 3742
OCTOPUS ACTIVITY AND CONTACT MANAGEMENT
Improve office productivity and communication, monitor activities and progress.

4 J D Edwards (UK) Ltd
Oxford Road, Stokenchurch, High Wycombe, Buckinghamshire HP14 3AD
Tel: 01494 682700 Fax: 01494 682699
J D Edwards & Company is the industry leader in supplying application software and solutions for the IBM AS/400 market.

5 QSECURITY LTD.
Lutomer House, 100 Prestons Road, Canary Wharf, London E14 9SB
Tel: 0171 515 9229 Fax: 0171 515 9967
Computer security is the major threat to financial services and all those with heavy investment in confidential business data essential to a competitive edge.

6 Business Solutions
7 Client Server Application
8 Client/Server
9-10 Client Server Accounting & Distribution Software

6 Computacenter Limited
Computacenter Hse. 93-101 Backfins Rd. London SE11 8HL
Tel: 0171 593 4655 Fax: 0171 593 4650
Computacenter is the UK's leading independent provider of distributed IT systems and services.

7 JBA
Needles House, Birmingham Road, Studley, Warwickshire B80 7AS
Tel: 01527 496444 Fax: 01527 496230
Product Descriptions JBA System 21 is a completely integrated information services infrastructure for organisations trading in national and global markets.

8 Tivoli Systems Software S.A.
22, rue Juste-Olivier, CH-1250 Nyon, Switzerland
Tel: (41 22) 994 94 94 Fax: (41 22) 994 94 95
The Tivoli Management Environment (TME) is composed of powerful, integrated software products which enable companies to centrally manage their distributed systems and applications.

9 Lawson Software
Capital Place, 120 Bath Road, Hayes, Middlesex UB9 5AN
Tel: 0181 754 6470 Fax: 0181 754 7768
Lawson Software offers robust, client/server applications with proven business benefits for companies worldwide.

10 Lincoln Software Limited
Marlborough Court, Pickford Street, Macclesfield, Cheshire SK11 6JD
Tel: 01625 616722 Fax: 01625 618780
Lincoln Software produces a range of Meta-CASE and CASE tools for large scale three-tier client/server application development.

11 Colour Monitors
12 Computer Rentals
13 Construction Industry Software
14 Data & Document Capture
15 Data Management

11 IYAMA (UK) LTD
6-8 VIEWPOINT/BABAGE ROAD, STEVENAGE, HERTS SG1 2ED
Tel: 01438-745833 Fax: 01438-745483
Iyama (UK) Ltd manufacture a range of award winning high performance colour monitors for the IT industry.

12 Green Computer Rentals Plc
Harmer House, 7A Harmer Street, Gravesend, Kent OA12 2AP
Tel: (44) 1474 363 155 Fax: (44) 1474 363 577
Specialists in short term rental of mid-range computer systems, features and peripherals.

13 IBIS Service Limited
2 Teyford Place, Lincoln Inn, Cressat, High Wycombe, Bucks HP12 3RE
Tel: 01494 449665 Fax: 01494 443333
SITEMAN® is a Site Based Computer System for the Construction, Engineering and Contracting Industry.

14 OPEN 4 Systems Ltd
Ardale House, Osley Rd, Headingly, Leeds LS6 2JU
Tel: 0113 274 9990 Fax: 0113 274 9998
Barcoding - specialists in integrating barcode technology with existing systems.

15 MR-Data Management Group Plc
47 Bastwick Street, London EC1V 3PS
Tel: 0171 250 3377 Fax: 0171 250 1873
MR-Data Management Group provides comprehensive facilities management and outsourcing for data management requirements.

16-20 Data Communications

16 Motorola Information Systems Group
Church Road, Lowfield Heath, Crawley, West Sussex RH11 0PQ
Tel: 01293 404343 Fax: 01293 404362
NETWORK THE WORLD TO YOUR ADVANTAGE
Motorola's Information Systems Group is a world leader in computer networking. Its products are designed to provide organisations with reliable, affordable network structures that support business processes and objectives.



21 Data Visualisation & Maths & Stats Libraries
22 Distribution Manufacturing & Financial Solutions
23 Electronic Document Management Software
24 Enterprise Applications
25 Enterprise-wide Applications

21 Visual Numerics Int. Ltd.
New Tine Court, Datchet Road, Slough SL3 7LL
Tel: 01753 790600
Email: info@vni.co.uk http://www.vni.com
DATA VISUALISATION - PV-WAVES is a Rapid Application Development Tool for Decision Support Modelling, Analysis and Visualisation of Complex Data Sets.

22 Minerva Industrial Systems plc
Bovis House, Lansdown Road, Cheltenham, Glos GL50 2JA
Tel: 01242 242550 Fax: 01242 236107
Company Description
minerva INDUSTRIAL SYSTEMS
Hardware
UNIX, Open systems
GUI, OO, ROEMS, 4GL, 200+ platforms

23 FilePlus Europe Ltd
Coworth Park House, Ascot, Berks SL5 7SF
Tel: 01344 875050 Fax: 01344 873622
Email: 100137.2021@compuserve.com
Product Description
File Plus Professional 2 is State-of-the-art Document Management Software for the Professional Office environment.

24 SSA
Frimley Business Park, Camberley, Surrey GU16 5SG
Tel: 01276 692111 Fax: 01276 692135
Company Description
With over 7,000 client implementations, BPCS Client/Server represents the world's largest installed base for a single enterprise-wide product line addressing integrated process and discrete manufacturing, supply chain management, and global financial applications.

25 Dun & Bradstreet Software
Holmers Farm Way, High Wycombe, Buckinghamshire HP12 4XU
Tel: 01494 424140 Fax: 01494 424240
Dun and Bradstreet Software is one of the world's Top Ten software vendors. We provide integrated workflow-enabled business applications for financial, human resources, procurement, information management and manufacturing/distribution activities.

26 Enterprise-wide Software
27 Entertainment Games Software
28 Environmental Data
29 European Accounting & Business Systems
30 Finance Management

26 SAP (UK) Limited
No 7 New Square, Bedford Lakes, Farnham, Middlesex TW14 8MA
Marketing Hotlines: 0181 818 2940
Fax: 0181 818 2990
Company Description
SAP is a wholly owned subsidiary of SAP AG, a leading software supplier with over 3000 customers worldwide. The ASW Portfolio is a full range of application software with a GUI interface providing innovative solutions to today's business needs.

27 Acclaim Entertainment Ltd.
Moreau House, 112-120 Brompton Road, London SW3 1JJ
Tel: 0171 344 5000 Fax: 0171 344 5040
London-based Acclaim Entertainment Ltd. is a subsidiary of NY-based Acclaim Entertainment Inc., a leading worldwide publisher of software and peripherals.

28 Institute of Hydrology
Wallingford, OXON OX10 0BB
Tel: 01491 838800 Fax: 01491 692424
Web: http://www.rhul.ac.uk/i/h
Developers and suppliers of spatial and time series datasets of environmental variables (rainfall, river flow, soil water, land use and ecological data) for inclusion in environmental management/assessment systems.

29 International Business Systems
1 Imperial Place, Epsom Way, Borehamwood, Herts WD6 1JN
Tel: 0181 2079535 Fax: 0181 2076780
Company Description
IBS is a wholly owned subsidiary of IBS AB, a Swedish public company and one of the leading software suppliers with over 3000 customers worldwide.

30 Software 2000 UK
Crosby House, Meadowbank, Furlong Road, Bourne End, Bucks SL8 5AJ
Tel: 01828 850650 Fax: 01828 850243
Company Description
Software 2000 offers a comprehensive suite of financial and human resources software designed exclusively for the IBM AS/400 server and related technologies.

31 Focus on Desktop Computing
32-34 Helpdesk
35 Helpdesk Management Software

31 IS Solutions Plc
Admiral Hawks House, Green Street, Sunbury-on-Thames, Midd. TW18 8FA
Tel: 01832 893 333 Fax: 01832 893 433
We are a multi-national VAR specialising in internet: web servers, graphic design, connections, applications and electronic commerce.

32 Digital Equipment Co Ltd
Digital's Helpdesk Support combines expert, responsive support for the most popular software products with a flexibility that allows you to create the solution that's an ideal match for your needs.
unrivalled problem-solving resources of Digital's worldwide Customer Service Centres please contact your local Digital Sales Office and ask for Multivendor Customer Services.
Geographical coverage: Digital Equipment Corporation does business in more than 100 countries and offers a worldwide service infrastructure and service delivery capability.

35 Sunrise Software Limited
Surrey House, 34 Eden Street, Kingston Upon Thames, Surrey KT1 1ER
Tel: 0181 548 7000 Fax: 0181 541 4282
Richmond - Helpdesk management software for internal IT and External Customer Support Helpdesks.

Handwritten note in Arabic script: صديقا من الاعمال

FT-IT DIRECTORY

36 Helpdesk & Support Systems
37 Host Connectivity Software
38 IBM Connectivity Software
39 Insurance Software Systems
40 Internet Security

36 WorkGroup Systems Limited
10th Floor, Maple House
Potters Bar, Hertfordshire EN9 5BS
Tel: 01707 664466 Fax: 01707 661250

37 Wall Data (UK) Ltd
Wall Data House, 418 Bath Road, Langford,
West Drayton, Middlesex UB7 0EA
Tel: 0181 476 5000 Fax: 0181 476 4151

38 Netsoft International Limited
Coach House Cloisters,
Hitchin Street, Baldock SG7 8AE
Tel: 01462 490094 Fax: 01462 490919

39 EPG Insurance Systems
120 Leman Street, London E1 8EU
Tel: +44(0)171 488 4080 Fax: +44(0)171 488 1181
Email: sales@epg.co.uk

40 Essential Computing Limited
Burnstead Court, Clevedon
Avon, BS21 7NB. Tel: (01275) 343199
Email: sales@essential.co.uk

41-42 Intranet
43 MIS
44 Multi-media Software
45 Network Connectivity

UNICOM Seminars Ltd
The Intranet:
A Corporate Revolution?
11 June 1996, Ramada Hotel, Heathrow
Chaired by Steve Purdham, USB

43 K2 SYSTEMS PLC
4Front House, 4 Colindale Business Park
Watford, Hertfordshire, WD2 4PR
Tel: 01923 818265 Fax: 01923 224525

44 First Information Group/
Flag Tower
Knightsbridge House, 197 Knightsbridge,
London SW7 1RB
Tel: 0171 393 3000

45 Thomas & Betts Ltd
Foster Ave, Woodside Park, Dunstable, LU5 5TA
Tel: 44 (0) 1582 677080
Fax: 44 (0) 1582 808816

46-53 Making electricity a manageable network resource
54 Network Security

InvertoMatic Victron (IMV)
UK office: IMV Victron UK Ltd, f.a.o. Paul Fletcher
Tel +44 1455 618 666 Fax +44 1455 611 446
Headquarters: Sales5@Victron.nl

54 Liebert
Elgin Drive, Swindon
Wiltshire SN2 8DX, UK
Tel: 01793 553355 Fax: 01793 553424

52 SELECT Software Tools
Westmoreland House, 80-86 Bath Road
Cheltenham, Glos. GL53 7JT
Tel: 01242 229 700 Fax: 01242 229 701

56 Outsourcing
57 Statistical Software
58 Systems Integration
59 Systems Management
60 Training & Consultancy

56 CSI Computing Services for Industry
Canal Place
Leeds LS12 2DU
Tel: 0345 0110105 Fax: 0113 243 6950

57 Computer Algebra Centre
The Research Park, Vincent Drive
Edgaston, Birmingham B15 2SD
Tel: 0121 471 4195 Fax: 0121 471 5195

58 Software Technologies Corp.
117, Nashgrove Lane
Wokingham, Berks RG40 4HG
Tel: (44) 01734 773180 Fax: (44) 01734 773293

59 Heroix Corporation Ltd
Yomans Court, Ware Road,
Hertford SG13 7HJ, England
Tel: +44 (0) 1992 500066 Fax: 01992 500065

60 Peritas Ltd
Beaumont, Old Windsor, Windsor,
Berkshire SL4 2UP
Tel: 01753 888181 Fax: 01753 841775

61 Troubleshooting Software/Diagnostic Software
62 Video Conferencing
63 Video Conferencing
64 Voice Recognition Software & Systems
65 Windows access to legacy data

61 Plan Computing Services Ltd
27 Sandhurst Road, Growthome
Berks RG45 7HR
Tel/Fax: 01344 771565

62 IBM United Kingdom Limited
PO Box 51, Barnet Road, Watlington, CV34 5JL
Tel: 01826 464343 Fax: 01826 407345

63 VTEL Europe Limited
Apex Place
Reading RG1 1AX
Tel: 01734 560 915 Fax: 01734 560 545

64 Vocalis Ltd
Chester House, Mill Court, Station Rd.
St. Shelford, Cambridge CB2 3LQ
Tel: 01223 846177 Fax: 01223 846178

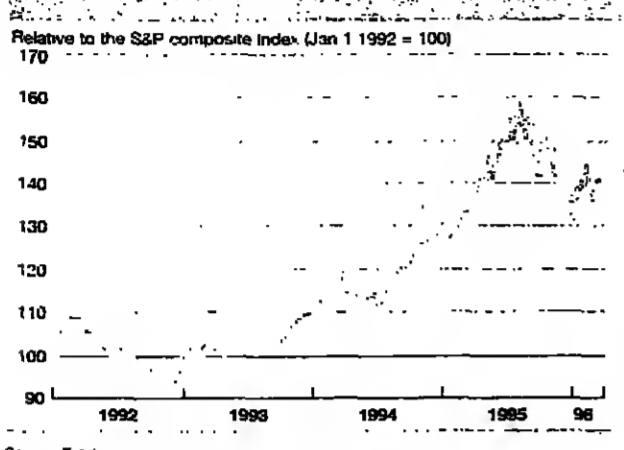
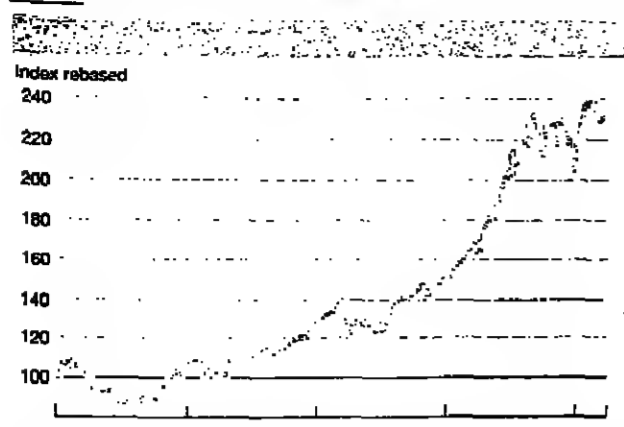
65 Transoft Ltd
5J Langley Business Centre, Station Road,
Langley, Slough, Berks SL3 8DS
Tel: 01753 778000 Fax: 01753 773050

FT-IT DIRECTORY REPLY SERVICE

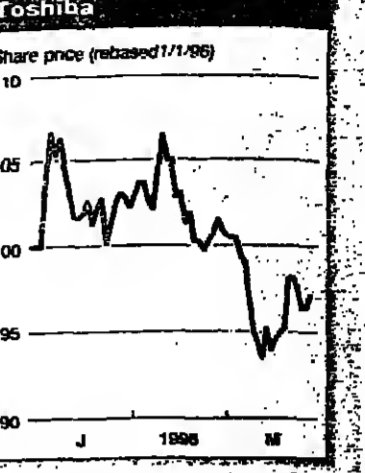
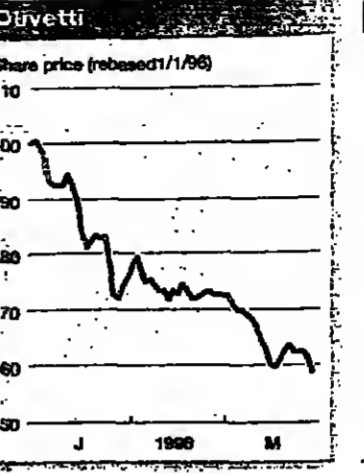
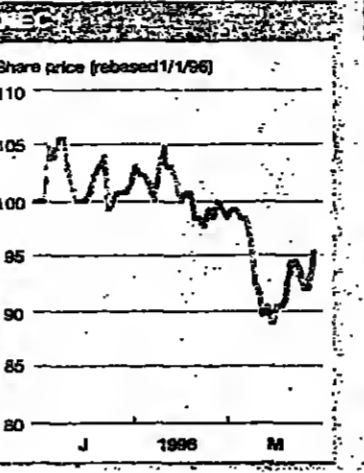
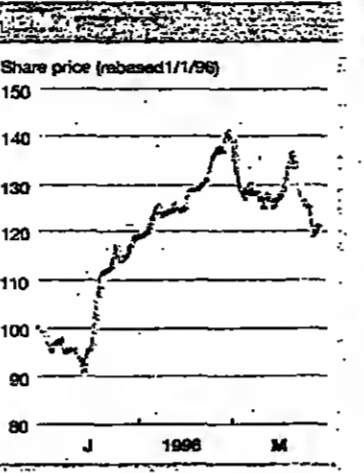
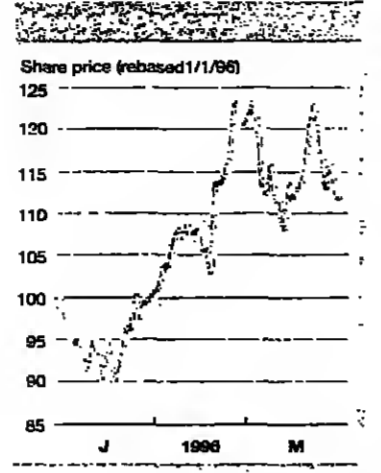
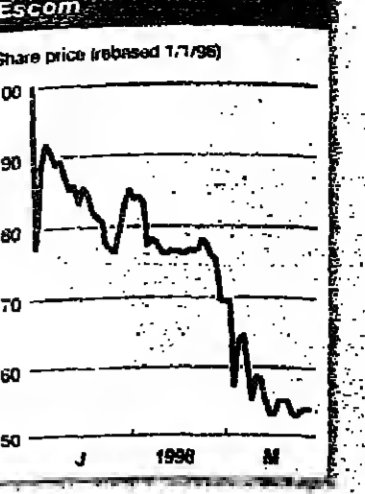
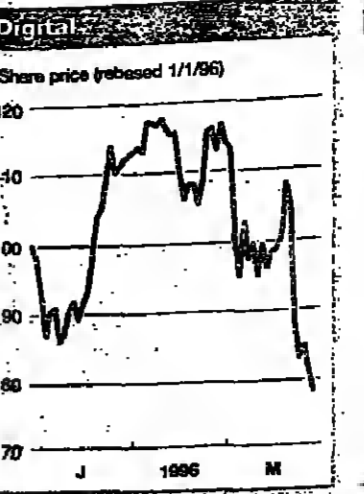
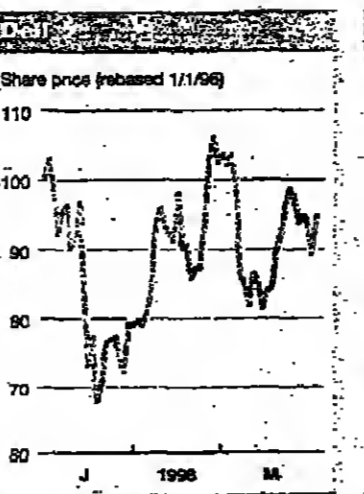
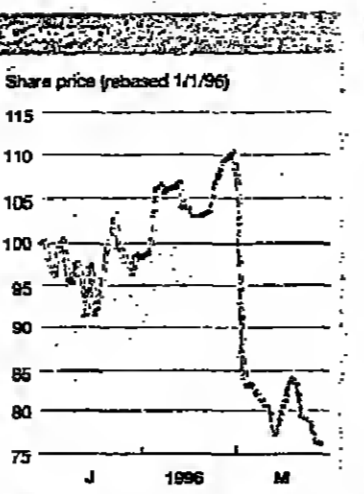
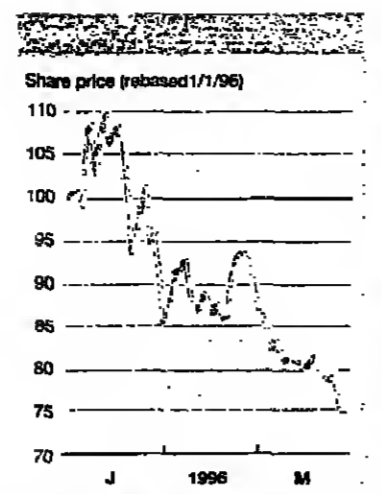
Should you require further information on any of these advertisers, simply fill in the coupon and return it to: Box FTIT-3 96, Financial Times, One Southwark Bridge, London SE1 9HL

Name
Company Name
Position in Company
Address
Telephone

### STOCKWATCH



Source: Ertel



#### Stockwatch comment

## PC price wars add to share volatility

Shares in Dell, Digital Equipment, IBM, Hewlett Packard and Compaq Computer all moved higher despite a swath of price-cut announcements

Personal computer manufacturers' share prices are notoriously volatile and the last few months have proved no exception. The outbreak of a new desktop price war, Apple Computer's huge losses and boardroom changes have all added to investors' excitement.

Meanwhile, disappointing sales for some companies in the fourth quarter coupled signs of a marked slowdown in the US PC market and sluggish growth in some other markets, such as Germany, have taken their toll.

Among the leading PC manufacturers, Apple's share price appeared to have bottomed out last month as the group's new chief executive, Mr Gilbert Amelio, began to get to grips with the group's problems.

Signalling this, the shares actually rose slightly last week after Apple warned that its net loss for the three months to March 29 would be about \$700m after "sizeable charges" to reduce bloated stocks.

Meanwhile Amelio, the former National Semiconductor chief executive who took over at Apple eight weeks ago, has given himself 100 days to assess the company's position and develop a new strategy for the industry pioneer - a strategy which is likely to be built around more focused markets and a sharper business model.

market will not pick up until the second half. Shares in Hewlett Packard, in particular, have been buoyant over the past few months reflecting a number of factors including the company's aggressive push into the desktop PC market where it is one of the fastest market share gainers.

Escom losses In Europe, Escom confirmed its problems with a DM125m full year net loss and then announced last week that Mr Manfred Schmitt, who holds 23 per cent of the equity, was stepping down as chief executive to make way for a former Escom executive - Mr Helmut Jost, who runs IBM's German PC business.

Mr Jost was responsible for Escom's sales and marketing until November when he left to join IBM. Escom's share price has fallen sharply over the past three months as details of its problems emerged.

As part of the efforts to bolster its position, Escom's capital was reorganised earlier last month to provide the group with Dm100m in fresh funds. As part of that deal, Siemens Nixdorf has increased its stake by 2.5 per cent to 12.5 per cent and announced at Germany's CeBit trade fair that it has also acquired a 10 per cent stake in Vobis, another German PC maker.

Siemens said the move was part of its strategy to grow its PC operations and cut costs through joint component purchasing.

#### Receive your own copy by post

Subscribe to the FT Review of Information Technology and make sure of receiving your own copy by post of Britain's leading IT review. All prices include post and packing:

	UK	Europe	Rest of World
Five issues	£8.50	£14	£26
Ten issues	£16	£26	£50

For further details, or to place a credit card order, phone 0345 125244 (UK callers) or +44 171 536 8288 (overseas callers)

You only can also subscribe by cheque or postal order for the above amounts payable to Financial Times Ltd. Please write or send business card with your payment to:

Ms Terri Moule  
Subscriptions Department  
Financial Times  
Number One Southwark Bridge  
London SE1 9HL

The Financial Times Review of Information Technology is published ten times a year: February - July and September to December, inclusive. Issues appear with copies of the Financial Times on the first Wednesday of each month. Postal subscriptions are delivered as soon as possible after this date.

©1996 NCR. All rights reserved.

we can help you  
to know your  
customers better  
than anyone else  
on earth.

How well do  
you know us?

NCR

IBM is a world leader in providing customers information systems and services. Whether your information needs are in hardware, software or...  
...of financial... your customer knowledge will give you the competitive edge. In retail, a...  
...supply chain performance merchandising strategies which have you close to your customer. We're also the world's largest...  
...number of ATMs and financial transaction based systems. Our customer focused solutions will make your company more competitive...  
...worldwide services and supply chain mps and data warehousing systems the 80% of the world computer market.

صحة من الالام